



SCHOOL OF ECONOMICS AND MANAGEMENT

Bachelor's Programme in Economy & Society

Foreign Direct Investment Spillovers: Evidence from Egypt, 2000-2020

by

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Abstract: Foreign direct investment (FDI) is a crucial element of globalization; knowledge spillovers, increasing employment, and technology transfer through inward FDI promote economic growth. Egypt is the top FDI recipient in Africa, and empirical literature finds a positive correlation between FDI and economic growth in the country; however, there are limited academic discourses on the channels through which FDI positively affects the economy. The thesis investigates FDI spillovers in Egypt using FDI-led growth hypotheses and absorptive capacity theoretical insights. The following research question was analyzed through an exploratory mixed-methods approach; *How have spillovers from inward foreign direct investment (FDI) contributed to Egypt's economic growth?* The thesis indicates that there are infrastructural spillovers from FDI; however, considering the country's large amount of FDI, a more considerable amount of infrastructural-driven projects is expected. FDI has generated employment spillovers and potential for further job creation considering the sectors receiving the most investment. Evidence on technology spillovers is limited, yet there are more opportunities if the government promotes higher human capital development and policies that create incentives for FDI inflows. For Egypt to exploit FDI spillovers and increase its absorptive capacity, there is a need for lower corruption and further infrastructure development.

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List of Acronyms

ASEAN	Association of Southeast Asian Nations
BoP	Balance of Payments
CBE	Central Bank of Egypt
FDI	Foreign Direct Investment
FY	Fiscal Year
GAFI	General Authority for Investment and Free Zones
GDP	Gross Domestic Product
GOE	Government of Egypt
HDI	Human Development Index
M&A	Mergers and Acquisitions
MNCs	Multinational Corporations
OECD	Organization for Economic Co-operation and Development
UNCTAD	United Nations Conference on Trade and Development

1. Introduction

Capital flows across countries are one of the past decade's most significant signs of globalization (Alaa, Ashraf & Marwa, 2021). Foreign direct investment (FDI) is a cross-border capital flow countries utilize to enhance economic growth (Alaa, Ashraf & Marwa, 2021). Hosting FDI is essential in developing countries, mainly in improving the economic structure and impacting economic development (UNCTAD, 2019). The positive externalities of FDI are classified as spillovers in job creation, skills transfer, capital inflow, technology transfer, and increasing productivity in local firms (Anyanwu, 2021; Seyoum, Wu & Lin, 2015). Africa persists as the least developed continent in the world; hence, attracting and exploiting FDI should be the countries' most significant priorities (UNCTAD, 2021a). In 2009, the World Bank rated the Arab Republic of Egypt (labeled Egypt henceforth) the top world reformer in doing business (World Bank, 2009). Apart from the other countries in North Africa, Egypt has managed to attract FDI and exploit its benefits (UNCTAD, 2019). Furthermore, empirical literature finds that FDI exerts a positive economic growth effect in Egypt (Alaa, Ashraf & Marwa, 2021; Hanafy, 2015). The thesis examines whether there are spillovers from FDI that have enhanced economic growth in Egypt through a mixed-methods approach analyzing FDI inflows, sectoral distribution of foreign investment, macroeconomic indicators, and eventual spillovers.

1.1 Research Problem

Literature on FDI spillovers in North Africa is scant; until now, most studies have covered the Association of Southeast Asian Nations (ASEAN) countries, for example, Abduh & Yusoff, 2018; Alwathaf, 2015; Choong, 2010; Omar, 2003. Scholarly discourses emphasize the FDI-led growth hypothesis in Egypt (Alaa, Ashraf & Marwa 2021; Hanafy, 2015), yet the literature on the spillover effect of FDI in the country is scarce. As Africa struggles to escape the poverty trap, it is necessary for policymakers to understand the possible externalities of FDI that trigger economic growth. While the fact that FDI may enhance economic growth is clear, literature on the channels through which FDI positively affects the economy remains scarce; the study aims to investigate FDI spillovers in Egypt during the twenty-first century. A spillover is an externality that spills over into areas in the economy that eventually can lead to a positive effect on the

economy (Silajdzic & Mehic, 2015). The thesis focuses particularly on infrastructural, technological, and employment spillovers from FDI. To draw lessons from Egypt, the top receiver of FDI in Africa, is fundamental for policymakers in other African countries that seek to attract and exploit externalities from FDI, which is the motivation behind the thesis.

1.2 Research Question and Objectives

The present thesis aims to clarify the spillovers from FDI that generate economic growth in Egypt during the twenty-first century to derive lessons and policy implications. The thesis intends to investigate in what manners FDI has benefitted the Egyptian economy. Moreover, the thesis focuses on ‘absorptive capacity’; the term refers to a country’s ability to absorb benefits from FDI spillovers (Glass & Saggi, 1998). Ultimately, the thesis seeks to unpack the benefits of FDI to promote sustainable economic growth in Egypt. Given a positive correlation between FDI and economic growth in Egypt, the research question addressed in the study is:

How have spillovers from inward foreign direct investment (FDI) contributed to Egypt’s economic growth?

The main objectives of the thesis are to trace the performance of the sectors receiving FDI and analyze macroeconomic indicators such as labor force participation, productivity growth, and economic growth to identify spillovers from inward FDI in Egypt. The thesis findings expect to contribute to the literature on FDI spillovers and inform policymakers in Egypt and other developing countries on utilizing the benefits of FDI for the broader economy. Consequently, it is essential to examine the impact FDI has on the Egyptian economy, which is the motivation for the thesis. While attempting to identify overarching themes through a mixed-methods approach, the thesis aims to aid policymakers and investors in gaining a deeper understanding of spillovers from FDI in Egypt from 2000-2020.

1.3 Methodology

The methodological approach utilized in the thesis to answer the research question is an exploratory sequential design, a mixed-method approach applying a combined qualitative and quantitative analysis (Creswell, 2013; Saunders, Lewis & Thornhill, 2009; Schoonenboom & Johnson, 2017). The qualitative analysis of the thesis is the method of document analysis, relying on national and international public documents; secondary papers are an asset for a nuanced analysis of the development of the research problem over time. For the quantitative approach, the data collection process is based on several established sources; the primary national provider is the Central Bank of Egypt (CBE). International datasets are from the World Bank, the United Nations Conference on Trade and Development (UNCTAD), International Labor Organization (ILO), and FDI Markets. Time series data on FDI net inflows, FDI inflows breakdown by economic sector, an overview of greenfield investments, infrastructural FDI-driven projects per sector, GDP per capita, the annual growth rate in GDP per capita, productivity per worker, labor force participation, and the unemployment rate is analyzed. Graphical representation conducted in statistical software illustrates the quantitative data.

1.4 Delimitations

The thesis is subject to delimitations. The thesis focuses solely on economic growth, which is only one indicator of economic development. The growth of an economy does not guarantee a less impoverished, more educated, or healthier population; the Human Development Index (HDI) is more appropriate for a study focusing on other aspects than a growing economy. The thesis will merely investigate the spillovers from FDI in Egypt to achieve economic growth rather than regard the importance of, for instance, policies for a well-functioning economy. Furthermore, the economic growth of Egypt is not only attributed to the benefits from inward FDI, yet it instigates a substantial role in the economy. The data analyzed is for the entire country of Egypt and does not consider the regional distribution of FDI inflows. The thesis focuses on FDI inflows and macroeconomic indicators from 2000-2020, mainly due to data availability and considering the scope of the thesis. Thus, the period is a limitation to the thesis as it ignores recent economic

conditions reflecting the COVID-19 pandemic and the war in Egypt's neighboring country Sudan.

There is a risk of biases in the qualitative and quantitative data from the government and the central bank, especially considering the political instability and corruption in the country, which is at risk of affecting the accuracy of the data; therefore, the analysis will not merely depend on government sources and, therefore, extends to other official sources. While the World Bank and UNCTAD may provide a wealth of data, there is a risk of gaps in the data or a lack of certain variables in specific years.

1.5 Definition of Fundamental Concepts

The following section explains fundamental concepts to ensure an understanding of essential principles relevant to the research topic.

Arab Spring

The *Arab Spring* was a wave of anti-government protests in the Middle East and North Africa between 2010-2011 (El-Mahdi & Korany, 2012). The movement brought a sharp economic decline in Egypt and halted tourism altogether (El-Mahdi & Korany, 2012).

Economic Growth

Economic growth refers to increased real national income/output or Gross Domestic Product (GDP) (Kaldor, 1957). Economic growth is included in economic development, which refers to improving the quality of life and living standards (Kaldor, 1957). Nevertheless, economic growth focuses solely on GDP growth (Kaldor, 1957). The following equation is the GDP formula according to the expenditure approach (Kaldor, 1957);

$$GDP = C + I + G + NX$$

C is Consumer Spending, I is Investment, G is Government Spending, and NX is for Imports subtracted from Exports.

Foreign Direct Investment

Foreign Direct Investment (FDI) is an investment from a multinational corporation (MNC) based in an affiliate located in a foreign host country (Elshamy, 2015).

Host Country

A *host country* is a country that receives FDI (Kokko, 2006). In the case of the thesis, Egypt is the host country.

Home Country

A *home country* is the country where the FDI originates (Kokko, 2006).

Mergers and Acquisitions (M&A)

The concept of *Mergers and Acquisitions (M&A)* refers to consolidating companies or their major assets through various financial transactions (Wang & Wong, 2009).

1.6 Thesis Outline

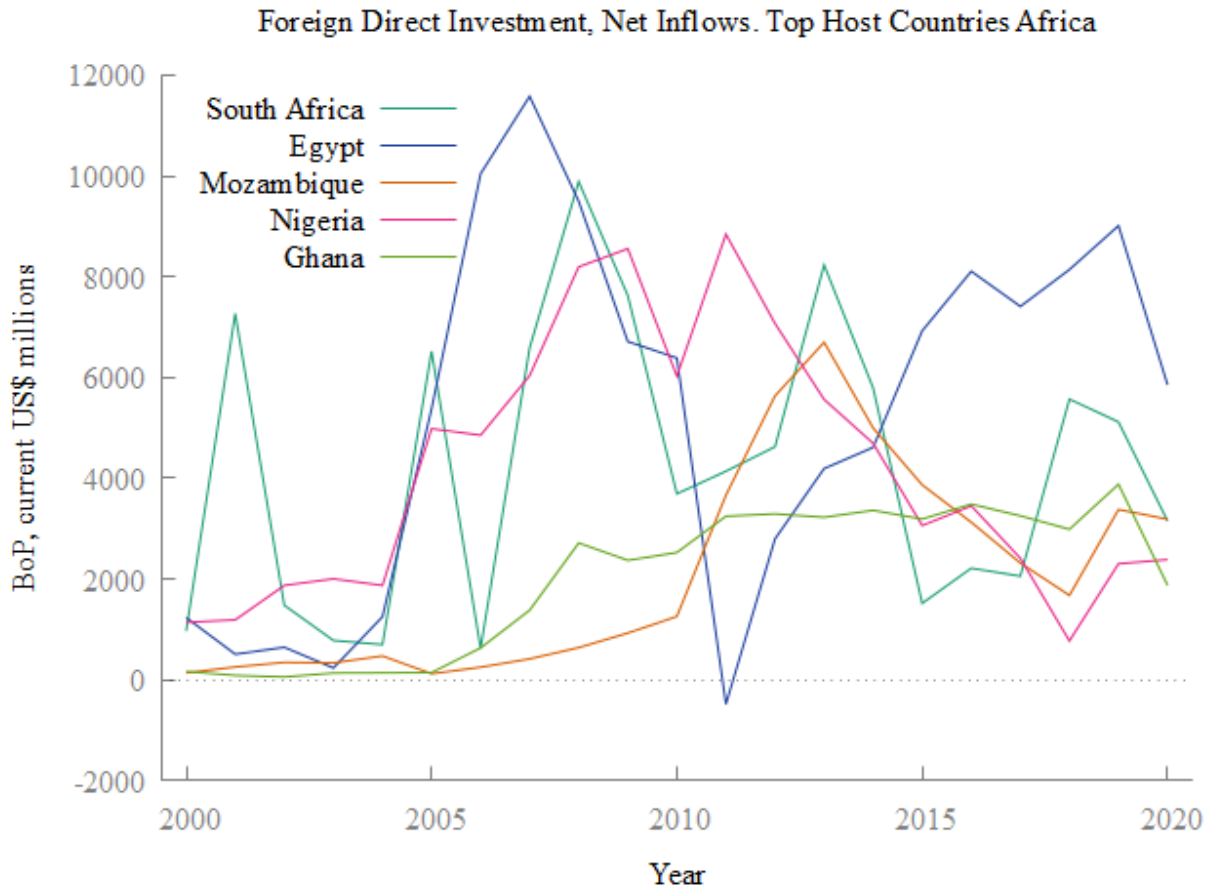
The thesis consists of eight sections and a reference list structured as follows. As section one has provided an introduction to the subject and emphasized the research question of the thesis, section two is a brief background of Egypt in the context of inward FDI and economic growth. Section three is the segment of the literature review of FDI in linkage to economic growth and spillovers. Following the literature review is section four, refining the theoretical framework relevant to the research problem. Section five on empirical strategy demonstrates the research design of the thesis, time period, case selection, data, methodological considerations, and limitations. Following the section on empirical strategy is section six, the thesis's analysis, followed by several sub-headings to analyze the structure and the spillovers from FDI in Egypt. Section seven discusses the findings in the previous segments of the thesis in combination with the theoretical framework. Section eight is the conclusion, finally followed by the reference list.

2. Context

The context section provides a brief overview of Egypt, FDI inflows in the country, types of FDI, and potential externalities of FDI.

Egypt is located in North Africa and has three major economic cities: Alexandria, Giza, and Cairo, which is the political and economic capital (UNCTAD, 2021b). The population of Egypt reached 108 million in 2020; Egypt is considered a middle-income developing country (UNCTAD, 2021b). Egypt is one of the biggest economies in Africa and has great potential to attract FDI (OECD, 2020; UNCTAD, 2019). The country's economy is highly dependent on oil exports, tourism, and the navigation of the Suez Canal (Bonaglia & Goldstein, 2006). The country has had positive economic growth prospects throughout the twenty-first century yet remains sensitive to external shocks and regional insecurity (Bonaglia & Goldstein, 2006). *Figure 1* portrays the top recipients of FDI in Africa from 2000 through 2020. The FDI inflows fluctuate for each country, yet Egypt has remained the top host country for the last five documented years (Figure 1).

Figure 1. Top FDI Host Countries Africa, Net Inflows. 2000-2020



Source: Authors' own graph with data compiled from the World Bank (2023a) database based on the International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and official national sources.

Note: Based on the author's calculations of millions of dollars.

Net inflows of FDI in Egypt increased significantly at the beginning of the 2000s, simultaneously with remarkable GDP growth (World Bank, 2023a, 2023b). At a time when FDI was flowing at an accelerating rate in the country, the Arab Spring brought a severe crisis to the economy (Rady, 2012). By virtue of Egypt's strategic location and large domestic market, Egypt is a country capable of attracting substantial FDI (Tarek & Ghoneim, 2018). Nevertheless, Egypt depends on FDI spillovers for development prospects like many other African countries (Tarek & Ghoneim, 2018).

The growth-enhancing ability of FDI is affected by the mode of investment in the host country. There are two types of FDI, namely brownfield and greenfield (Johnson, 2006). Greenfield FDI is a type of FDI where the non-resident company establishes new production, research, or distribution facilities in the host country; in the case of brownfield FDI, the non-resident company's acquisition already has existing facilities or companies in the country receiving FDI (Johnson, 2006). Brownfield FDI has a limited increase in the physical asset in the host country since only the owner is changed, with an insignificant inflow of physical capital (Johnson, 2006). Greenfield FDI is argued to cause a more significant substantial inflow of physical capital to the host country, and as brownfield FDI only produces a small inflow of physical capital, equalizing that greenfield FDI has a greater economic growth-enhancing effect in the host country (Javorcik, 2004).

According to the Solow-type models, spillovers from FDI would offset diminishing returns to capital, thus maintaining the economy's long-term growth trajectory (Herzer, Klasen & Nowak-Lehmann, 2008; Solow, 1956). Such a positive effect derives from an economy's ability to absorb spillovers from foreign investment; the term that describes the ability is the absorptive capacity (Glass & Saggi, 1998). Moreover, a country's absorptive capacity is vital for gaining benefits from hosting FDI (Glass & Saggi, 1998).

3. Literature Review

For the last decades, a great deal of research has examined FDI concerning economic growth and spillovers, but many of these have resulted in conflicting findings. The following literature review aims to provide an overview of the FDI-led growth hypothesis and the argued channels of FDI on economic growth. Thus, the section reviews the effect of FDI on the host economy, focusing on capital spillovers, technology spillovers, skill transfer spillovers, employment spillovers, and infrastructure spillovers. Lastly, the section discusses the research gap in the field of study.

3.1 The FDI-led growth hypothesis

In general, FDI includes the transfer of resources, for instance, financial capital, technology, and human resources, between countries while managed by the MNC, inducing FDI to be considered an engine of economic growth (Kukaj & Ahmeti, 2016). A direct effect of FDI is the improvement of technological development, knowledge, and labor skills, which consequently directly affects employment rates in the host country (Kukaj & Ahmeti, 2016).

The nexus between FDI and economic growth has been an academic debate for decades. According to the neoclassical and endogenous growth models, an expected positive correlation between FDI and economic growth exists, supporting the FDI-led growth hypothesis (Barro & Sala-i-Martin, 1995; Romer, 1986; Solow, 1956). The neoclassical growth model emphasizes that the steady increase in aggregate output emanates from capital accumulation and technological progress; however, scholars do not expect FDI to permanently impact economic growth due to diminishing returns to capital (Herzer, Klasen & Nowak-Lehmann, 2008; Solow, 1956). FDI is considered the most productive in the endogenous growth models; in addition to capital inflows, foreign firms are projected to generate knowledge and technology spillovers, enhancing aggregate productivity and growth (Barro & Sala-i-Martin, 1995; Castellani & Zanfei, 2006; De Mello, 1997; Romer, 1986).

The standard proposition of the growth models implies that FDI promotes economic growth, at least to some extent, which aligns with evidence from several studies, including Aisedu, 2002; Fosu, 2013; Iamsiraroj & Ulubaşođlu, 2015. Iamsiraroj and Ulubaşođlu (2015) detect empirical evidence from 140 countries, supporting that FDI positively affects economic growth on a global scale. Considering African countries, Aisedu (2002) finds that the determinants and effects of FDI are not significantly different from those in other developing countries. Fosu (2013) emphasizes that FDI can be an essential element of economic development in African countries; the growth effect is more significant accompanying improvements in institutional quality and human capital. Considering Egypt, Hanafy (2015) studied the FDI patterns in the country between 1982 and 2009, finding that all economic sectors have experienced growth in FDI. El-Rasheed and Aboluenein (2017) found that inward FDI had a positive and statistically significant effect on economic growth in Egypt from 1990-2015. The authors indicate that FDI from developed countries has a more substantial effect on growth in Egypt than FDI from developing countries. A study by Alaa, Ashraf, and Marwa (2021) aligns with the previous findings that FDI exerts a positive significant impact on the economic growth in the country.

3.2 FDI Spillovers in the Host Country

Given a positive effect of FDI on economic growth, several scholarly discourses debate the channels through which FDI positively impacts the economy. Inward FDI impacts the host economy directly and indirectly (Silajdzic & Mehic, 2015). Direct impact on the economy occurs through gross fixed capital formation and creating jobs; however, inward FDI can have dynamic benefits by indirectly affecting the economy through spillover effects from the MNCs to less productive firms in the host country (Silajdzic & Mehic, 2015). Spillovers from FDI are externalities that develop when MNCs' activities affect domestic firms' performance (Crespo & Fontoura, 2007). Knowledge spillovers, increasing employment, and technology transfer through inward FDI promote economic growth in host countries (Carkovic & Levine, 2002). Nevertheless, spillovers occur in degrees, meaning that it is possible for a country to experience different levels of spillover effects (Carkovic & Levine, 2002). The following subsections aim to demonstrate and understand the potential spillover effect of FDI on economies.

3.2.1 Capital Spillovers

Global free flow of capital is favorable since it allows foreign MNCs to seek the highest return on investments (Kurtishi-Kastrati, 2013). Jenkins & Thomas (2002) emphasizes the effect of ‘crowding in,’ acclaiming that the total growth effect of FDI increases by providing external capital inflow, including crowding in domestic investment. As a result of the crowding in effect, economic growth of the host country’s economy is expected to occur (Jenkins & Thomas, 2002). Similar to the findings by Jenkins & Thomas (2002), Borensztein, De Gregorio, and Lee (1998) emphasize that FDI is complementary to domestic investment; in that case, a one-dollar increase in inward FDI results in a growth in total investment for the host country by more than one dollar. Given the latter statement, there is nearly a one-to-one relationship between FDI and domestic investment (Borensztein, De Gregorio & Lee 1998). Furthermore, a study by Damooei & Tavakoli (2006) argues that FDI provides a significant channel of capital transfer, leading to economic growth.

3.2.2 Technology Spillovers

A common argument by scholars is that FDI is an essential channel for knowledge and technology transfer between countries. Hill (2014) accentuates that technology transfer is either in the production process or incorporated into a product. Generally, technology transfer to the host country through FDI is usually more advanced than locally available (Colen, Maertens & Swinnen, 2008). The impact of FDI on the economic growth in the host country is contingent on the technology gap between the host and the home country, argues Colen, Maertens, and Swinnen (2008). Findlay (1978) argues that the larger the technological gap between the home and the host country, the more rapidly the new technology is adopted in the host country. Contradictory to Findlay (1978), Glass and Saggi (1998) argues that the greater the technology gap between the countries, the lower the likelihood of spillover effects. The study argues that a lower technology-skilled host country is not likely to have the ability to utilize the MNCs' transferred technology and knowledge; the technology gap is considered an indicator of the host country's absorptive capacity, the host country's ability to absorb the transferred technology and knowledge (Glass & Saggi, 1998). The concept of absorptive capacity is more elaborated in section four, the theoretical framework.

Technology transfer from home to host countries is one of the expected spillover effects of FDI; FDI inflows profit a country through the spillover effect, influenced by absorptive capacity (Colen, Maertens & Swinnen, 2008; Glass & Saggi, 1998). The spillover effect is defined as an indirect effect of FDI inflows; in backward linkages and the MNC interacts with local suppliers, the technological spillovers tend to be voluntary since the MNC has an interest in improving the suppliers' technology, ensuring that the supplier provides the MNC with quality inputs (Javorcik, 2004). In the case when local companies gather information and imitate the technology of the MNC, it is involuntary spillover (Javorcik, 2004).

Previous studies argue that FDI generates either positive or adverse effects on the productivity of the companies in the host country; Tian, Lo, and Song (2015) point out that a positive effect arises when the presence of FDI enhances the productivity of the companies through competition, linkage effect, and employment. However, Aitken & Harrison (1999) emphasizes that a negative effect occurs when the presence of FDI reduces the productivity of local companies by cause of market and stealing of skills.

Several studies have explored FDI and technology spillovers in different countries (Mangai & Bwalya, 2010; Le & Pomfret, 2011; Liu, Xu, Yang, Zhao, & Xing, 2016). Mangai & Bwalya (2010) analyzed technology spillovers from MNCs to local companies in the manufacturing sector in the case of three African countries, supporting the presence of horizontal productivity spillovers and vertical technology spillovers from the MNC to the local company. Similarly, Le & Pomfret (2011) found evidence in Vietnam that local companies benefit from vertical technological spillovers through vertical linkages with MNCs. Findings from China's energy sector indicate that FDI renewable energy technology spillover positively impacts the country's energy industry performance (Liu et al., 2016). The absorptive capacity of China's energy industry enhances as a factor of increasing capital stock in the sector by providing funds for expanding production scale, improving infrastructure, and increasing job opportunities (Liu et al., 2016). Considering Egypt, there are conflicting findings regarding technology spillovers (Fattah, 2014; Salem, 2015). Salem (2015) found no statistical evidence of a technology spillover effect in Egypt, while Fattah (2014) indicated that there are technological spillovers from FDI in the country.

3.2.3 Skill Transfer Spillovers

The skills transfer effect occurs when skilled workers from MNCs mobilize to local companies in the host countries, transferring technology and knowledge (Johnson, 2006). However, FDI inflows are not likely to cause a massive labor force transfer to the host country; thus, skill transfer occurs through training and organizational practices, Johnson (2006) indicated. While working for an MNC subsidiary or joint venture, a spillover effect is projected from the various skills gained (Johnson, 2006). Hosein (2015) explains that skill transfer from foreign MNCs to local companies occurs from labor mobility or learning-by-doing as the FDI externalities. Evidence from 72 Kenyan managers and 412 manufacturing firms in a study by Gerschenberg (1987) indicates that joint venture MNCs offer more training of various sorts to their managers in comparison to local private companies, resulting in a higher skill transfer effect. Further evidence is found in a study by Manyuchi (2016), which confirms the transfer of skills through diverse training programs conducted inside and outside Angola.

3.2.4 Employment Spillovers

Scholars proclaim that human capital positively influences a host country's economic growth and argue that the quality of human capital is crucial for the host country's ability to absorb FDI externalities (Hosein, 2015). Foreign investments have a direct and indirect effect on employment rates in the host country; FDI has a direct effect on employment when MNCs hire a large number of the local population of the host country and has an indirect effect when the investment leads to job creation at the level of local suppliers (Kurtishi-Kastrati, 2013). Kurtishi-Kastrati (2013) emphasizes the importance of forward and backward linkages with domestic industries to generate job opportunities and encourage further economic activities. Forward linkages are created when investment in a project advocates inventors to enter business relationships and invest in subsequent production levels (Kurtishi-Kastrati, 2013). On the other hand, backward linkages occur when a project promotes investment in facilities and supplies inputs that facilitate the project's flourishing (Kurtishi-Kastrati, 2013). The effects of FDI on employment around the globe are modest, yet the most extensive in host developing than host developed countries (UNCTAD, 2018). Aaron (1999) found that FDI has contributed to at least 26 million jobs in developing countries worldwide. Considering Egypt, Massoud (2008) found a

positive effect of FDI on the demand for labor in the country from 1974 to 2005; however, when aggregate FDI interacts with the size of the technology gap, the demand for labor decreases in the country.

3.2.5 Infrastructure Spillovers

Several academic discourses identify infrastructure as a primary source of FDI inflows (Behname, 2012; Chakrabarti, Subramanian, Meka, & Sudershan, 2012; Shah, 2014). Infrastructure is the length of roads, rail networks, power, and water supply, number of marine ports and international airports, and telecommunication density (Shah, 2014). Shah (2014) contends that the availability of infrastructure in the host country makes it more attractive for FDI since most MNCs prefer host countries with established infrastructure. Behname (2012) indicates that the infrastructure in Southern Asia between 1980 and 2009 positively affected FDI inflows. Chakrabarti et al. (2012) identified a positive relationship between infrastructure and FDI inflow in India between 2002 and 2007. Furthermore, Shah (2014) investigated FDI inflows for 90 developing countries between 1980-2007, indicating a positive impact of infrastructure available and FDI inflows to the host country. However, as Chakrabarti et al. (2012) found a positive relationship between infrastructure and FDI inflows in India, the relationship was non-linear. Makoni (2018) demonstrates infrastructural development as a core factor behind FDI inflows in Egypt.

3.3 Contribution to Existing Literature

In light of the above literature review, it is concluded that FDI has a positive significant impact on the economic growth of Egypt. Research emphasizes that there is potential for positive spillovers from hosting FDI, which is decisive for an economic growth effect. There are scholarly discourses that indicate that FDI has a positive effect on labor demand and that infrastructural development is important for FDI inflows in Egypt. Nevertheless, there is a research gap considering patterns of Egyptian FDI, especially after the Arab Spring, as there have been hardly any studies on the country and FDI ever since. Moreover, there is uncertainty on the channels and role FDI spillovers play in economic growth in the country as there is a lack

of modern literature. There are limited discourses on the theory of absorptive capacity and inward FDI in Egypt. Furthermore, literature on FDI spillovers in North Africa, in general, is scarce. The thesis focuses on trends of FDI in different sectors over the twenty-first century, and changes in macroeconomic indicators are unique to studies focusing on foreign investments in Egypt. The main contribution of the thesis is the special attention to channels of FDI spillovers and the concept of absorptive capacity to benefit from those spillovers.

4. Theoretical Framework

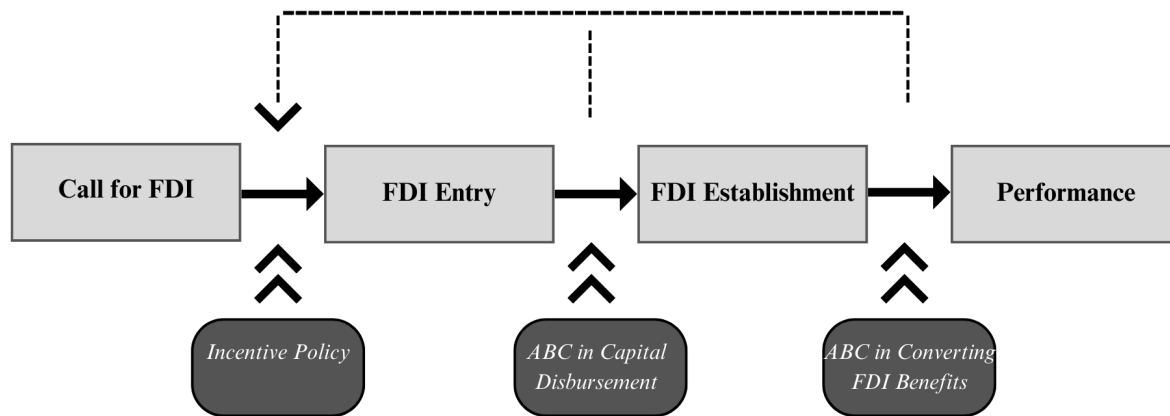
The section on the theoretical framework aims to act as a guide for the analysis section of the thesis. The theory of absorptive capacity was introduced in the literature review section and will bear the main focus of the theoretical framework.

4.1 Absorptive Capacity

Rogers (2004) acknowledges a country's absorptive capacity as essential when analyzing economic growth. Absorptive capacity is a country's ability to exploit external knowledge (Glass & Saggi, 1998). Simply, absorptive capacity refers to the capacity of an economy to absorb benefits from spillovers (Kedia & Bhagat, 1988). The absorptive capacity theory emphasizes several requirements for the host country to exploit FDI-induced economic benefits. Concerning FDI, absorptive capacity mainly concerns the country's ability to absorb the transferred technology and knowledge; the maximum amount of FDI a host country can substantially integrate into the economy defines absorptive capacity (Glass & Saggi, 1998; Kalotay, 2000). Literature on FDI regularly highlights the importance of absorptive capacity in host countries (e.g., Borensztein, De Gregorio & Lee, 1998; De Mello, 1999; Durham, 2004; Makki & Somwaru, 2004).

Absorptive capacity is necessary to grasp and transfer the knowledge of MNCs to achieve growth and innovation in local companies (Cohen & Levinthal, 1990). A high absorptive capacity increases the spillover benefits from MNCs to the host country (Girma, 2005). A sufficient amount of absorptive capacity is necessary to facilitate the spillover effects efficiently - a lower level of absorptive capacity limits the technology diffusion from FDI inflows to the host country (Mohamad & Bani, 2017). For instance, if two countries receive the exact volume of FDI inflows, yet one of the countries reaches a different level of technological innovation, a major explanation is the country's absorptive capacity difference. The country that reaches a higher level of technological innovation has a more remarkable ability to absorb new knowledge, exploit, and transform the technology into innovation (Cohen & Levinthal, 1990).

Figure 2. Position of Absorption in FDI Inflow



Source: Nguyen, Duysters, Patterson, Sander, 2009

Figure 2 portray the stages of inward FDI in the host country. In the first stage, proper incentive policies to attract FDI to the country are desirable (Nguyen et al., 2009). The essential incentive policies are, for instance, tax incentives or subsidies since MNCs seek to profit; therefore, an environment that will induce profit-making is preferable (Nguyen et al., 2009). The following stage is generally the most challenging for the host country, as the country must support investors in capital disbursement, ensuring that the investors commit to capital investments for project implementation (Nguyen et al., 2009). There is a time gap between receiving FDI and disbursement, which indicates the host country's absorptive capacity; a more delayed time between FDI inflows and disbursement may indicate poor infrastructure and underdeveloped institutions (Nguyen et al., 2009).

The capital dispersion stage depends on the host country's capacity to absorb the technological and knowledge spillovers from inward FDI (Nguyen et al., 2009). The externalities that arrive from the MNCs need to be converted to the domestic firm in the host country - the host country's absorptive capacity determines the process (Nguyen et al., 2009). Furthermore, a source of absorptive capacity is contingent on the interaction between the foreign and the local firm (De Mello, 1999; Makki & Somwaru, 2004). Suppose a country has a high level of absorptive capacity. In that case, it will achieve substantial benefits from inward FDI, increasing its attractiveness for MNCs and attracting a higher quality of FDI (Nguyen et al., 2009). It is not

only necessary for countries to attract FDI, but it is also crucial to have sufficient absorptive capacity to facilitate and exploit the spillover effect efficiently (Mohamad & Bani, 2017).

The sector receiving FDI is likely to determine the absorptive capacities in the country (Alfaro, Kalemli-Oczan & Sayek, 2009). Sectors and industries are prone to be heterogeneous in the potential to absorb the knowledge and technology from foreign to domestic firms (Gorodnichenko, Svejnar, Terrell, 2014; Leshner & Miroudot, 2008; Marcin, 2008). Therefore, the absorptive capacity effect, hence, the growth effects of FDI, might vary depending on the sector that receives FDI (Alfaro, 2003; Chakraborty & Nunnenkamp, 2008; Gönel & Aksoy, 2016; Wang, 2009). Evidence from FDI in the service sector in India has identified that inward investments promoted output growth through cross-sectoral spillovers (Chakraborty & Nunnenkamp, 2008). A study on manufacturing firms in Chile emphasizes that FDI in producer services increased the total factor productivity (Fernandes & Paunov, 2012). Moreover, countries with a more liberalized service sector generally receive more inward services FDI and have a faster growth rate than other countries (Mattoo, Rathindran & Subramanian, 2006). Because of the non-tradable nature of several services that demand proximity between producers and consumers, service FDI has a higher potential for forward linkages than in other sectors (Piscitello, Santangelo & Ghauri, 2007). Evidence from Egypt argues that more technologically intensive industries have the absorptive capacity to absorb MNCs' technology more efficiently (Ingham, Read & Elkomy 2020).

Several scholars argue that the positive spillovers from FDI are due to absorptive capacity channels such as human capital, infrastructure, and institutional quality (Piscitello, Santangelo & Ghauri, 2007; Kinoshita & Lu, 2006). The following subsections focus on these three factors behind absorptive capacity.

4.1.1 Human Capital

Studies indicate that human capital is involved in absorptive capacity; Borensztein, De Gregorio, and Lee (1998) emphasized that FDI only causes economic growth in developing economies when a minimum human capital threshold exists in the host country. Human capital is a term that

refers to investment in humans, for instance, through education, mental health, and personal resilience; human capital aid people to be productive (OECD, 2002a; Woodhall, 1987). The link between FDI and human capital is bilateral and complex. An uneducated workforce, meaning low human capital, hinders host countries from reaping positive externalities from FDI (Massoud, 2008). Inward FDI leads to knowledge spillovers into the host economy's labor force, and the level of human capital determines the country's ability to absorb the spillovers (Aitken & Harrison, 1999; Massoud, 2008). The level of human capital in the host economy determines the type and amount of FDI it attracts; the primary measurement of human capital is educational attainment (Aitken & Harrison, 1999). Economies with a low level of human capital cannot gain skills for development and end up attracting FDI that uses simple technologies, only allowing marginal local skill development (Blomström & Kokko, 2002). A low quality of human capital may lead to the country's inability to effectively use the technology introduced by foreign firms, which is more common in the least developed countries (Borenstztein, De Gregorio & Lee, 1998; Kokko, 1994). However, countries with high human capital attract technology-intensive MNCs, leading to extensive local learning and skill development (Aitken & Harrison, 1999).

Human capital is substantial in economic growth in developing countries (Coe, Helpman, & Hoffmeister, 1997); hence, a country must absorb the benefits of FDI. Moreover, human capital stock is a decisive element for absorbing and implementing technologies from the MNCs (Kwark & Syn, 2006). The technological spillovers through MNCs are contingent on the level of human capital in the country receiving FDI; developing human capital enhances technology as a high-skilled labor force is able to operate high-skilled technologies (Borenstztein, De Gregorio & Lee, 1998). Elevated technology increases productivity, positively affecting economic growth (Kotey & Abor, 2019). A resident from an MNC set up in a foreign country is labeled a foreign affiliate; a foreign affiliate increases the parent firm's competitiveness with local firms with the most excellent knowledge of the domestic market (Blomström & Kokko, 2002). Setting up a foreign affiliate may be an asset for transferring technology; however, it does not directly lead to a technology transfer beyond the MNC. To summarize, investing in human capital aids the country in absorbing the FDI benefits and attracts further foreign investments.

4.1.2 Institutions and Infrastructure

Satisfactory infrastructure and institutions are factors of absorptive capacity. Well-established infrastructure is crucial in developing an investment environment for MNCs; however, good infrastructure raises the expected rate of return on investments because of reducing investment costs (Kinoshita & Lu, 2006; OECD, 2002b). Conceding that infrastructure falls short of the critical level, FDI has a low effect on economic growth, trapping the country in a low-growth equilibrium (Kinoshita & Lu, 2006). On the other hand, an extensive infrastructure in the host country leads to beneficial spillovers from FDI and higher economic growth (Kinoshita & Lu, 2006). Sufficient infrastructure is a driver of FDI inflows yet a prerequisite for spillovers from FDI on the host economy (Kinoshita & Lu, 2006).

A stable and political environment in the country is beneficial to attract FDI into sectors not endowed with natural resources (Cleeve, Debrah, Yiheyis, 2015). To absorb the benefits of FDI, appropriate policies, low corruption, and a basic level of development are necessary since it creates a more competitive environment and enhances the development of enterprises (OECD, 2002b). The role of institutional development on economic growth was tested by Hayat (2017) using a dataset of 104 countries; the author proved that institutional quality generates more substantial FDI-induced economic growth. Countries seeking to attract FDI have attempted to reform their institutions as quality institutions attract investments (Hayat, 2017). Institutional quality attracts FDI, increases spillover potential, and increases competition between domestic and foreign firms (Hayat, 2017).

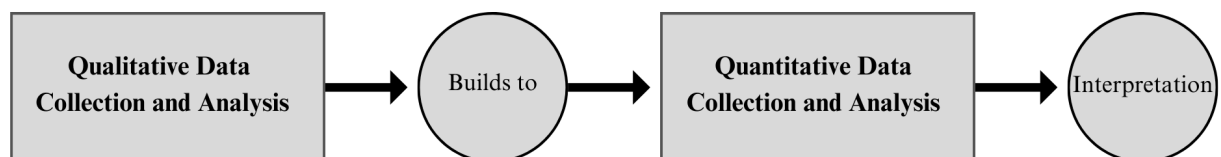
5. Empirical Strategy

The following section on empirical strategy depicts why a mixed methods approach is feasible for the thesis, the time period for the analysis, case selection, and how the method and data are utilized. Furthermore, the limitations the thesis faces are subjected to in the final part of the section.

5.1 Research Design

The present research seeks to explore FDI and its spillover impact on Egypt. The research problem requires an approach that describes, understands, and interprets the mechanisms through which the host economy, Egypt, benefits from FDI and its spillovers. The bachelor thesis aims to analyze the research problem through mixed methods research. The research consists of two main components: a quantitative analysis and a qualitative analysis. A combination of open-ended data in a qualitative approach and closed-ended data in the quantitative case will develop a broader understanding of the subject. The specific core design enforced is *exploratory sequential mixed methods design* (Creswell, 2013; Schoonenboom & Johnson, 2017). The method follows two separate phases, as indicated in *Figure 3*. An exploratory sequential design approach commences with the qualitative phase, followed by a quantitative phase (Schoonenboom & Johnson, 2017). The approach begins by exploring and analyzing the qualitative data; the following quantitative phase builds on the results of the initial qualitative database (Creswell, 2013).

Figure 3. Exploratory Sequential Design



Source: adapted from Creswell, 2013

In the matter of the thesis, the approach entails starting with a qualitative analysis of public documents backed up with secondary sources, analyzed in support of quantitative data, and is analyzed through descriptive analysis.

As previously emphasized, research on FDI and its spillover impact on economic growth in Egypt is limited, inducing an exploratory qualitative approach applied since the research investigates a less studied phenomenon (Saunders, Lewis & Thornhill, 2009). The qualitative data collection and analysis build on a historical narrative of international and national public documents and secondary sources over the division of time that the thesis cover. The papers will be analyzed to understand how Egypt takes advantage of and attracts FDI. An analytical narrative is selected since it will present an economic perspective of Egypt on the spillover effects of FDI.

Through descriptive analysis of secondary data, the thesis's quantitative segment will further investigate the characteristics of FDI in Egypt, complementing the findings in the qualitative data. The analysis will use time-series data of annual periodicity to measure economic development indicators. The practical steps include sorting data according to the period chosen for the thesis, thus generating charts and tables with statistical software. Graphical representation of data aims to showcase numerical data and help analyze and visually represent the quantitative data.

5.2 Time Period

The thesis analysis covers data from 2000 onwards, mainly due to inconsistent quantitative data during the entire twentieth century. The period of data studied ends in 2020; therefore, it avoids significant fluctuations because of COVID-19 yet includes economic and political challenges, such as the global financial crisis of 2008 and the instability following the Arab Spring in 2010-2011. Studying the period from 2000 to 2020 will enable a comprehensive analysis of FDI spillovers in Egypt, taking into account the different economic and political contexts that the country experienced. A twenty-year period expects to provide a good picture of the research problem and be a manageable scope for the thesis.

5.3 Case Selection

The country selected to analyze for the thesis is Egypt. Egypt is one of the most significant economies in Africa and the top recipient of FDI in the continent; inevitably, GDP growth and FDI inflows have increased significantly during the last decades in the country (World Bank, 2023a, 2023b). FDI is considered one of the main determinants of economic growth in Egypt; thus, the country is a successful example of enhancing the spillovers of inward FDI (UNCTAD, 2019). To grasp the FDI spillovers that enhance the economic growth of emerging African countries is of the highest relevance for policymakers and investors. Hence, Egypt is an ideal African country to analyze in light of externalities from inward FDI.

5.4 Data

The analysis section builds on qualitative and quantitative data. The core of the qualitative section relies on national and international public documents. The two central national agencies that provide sources analyzed for the qualitative analysis are the Government of Egypt (GOE) and the Central Bank of Egypt (CBE). The GOE provides information about implemented reforms and regulations that concern foreign investment, which is analyzed in the section on policies and reforms. Annual Reports, Economic Reviews, and Monthly Statistical Bulletins from the CBE are utilized to gather data and explanations behind variable changes. The first available Annual Report is from 2004; hence, there are eighteen available reports for analysis. April 1st, 2002, is the date of the first available Economic Review, Volume 23 Number 4. Until December 14th, 2021, there are 65 more publications, yet there is a gap between 2019-2020. The number of publications varies throughout the years, but there are usually four to six reviews annually. The first Monthly Statistical Bulletin available is from December 2003; there is one report from 2003 and 2004. However, after January 1st, 2005, there are publications from every month with some exceptions. Until January 2021, there are 535 available Monthly Statistical Bulletins. Due to the scope of the thesis, the qualitative analysis process was to scan the vast majority of publications of the reports, bulletins, or reviews throughout specific years.

From an international perspective, the United Nations Conference on Trade and Development (UNCTAD) equipped Investment Policy Reviews for most member countries - the report on Egypt was released in 1999. Following the Investment Policy Review Egypt (1999), a report on the implementation of the policy review in Egypt follows the development of FDI in Egypt after 1999 (UNCTAD, 2006). Moreover, UNCTAD's flagship publication, the World Investment Report, provides an annual review of trends in FDI flows, which will be an asset to the analysis over the period covered in the thesis. The Organization for Economic Co-operation and Development (OECD) has extensive reports on FDI and economic structure globally. Following the national and international public documents, several secondary sources land as a substitute for the analysis, providing a nuanced depiction of FDI spillovers in Egypt.

Building on the qualitative analysis, quantitative data is the second phase of the exploratory sequential design method. CBE is a national agency that records quarterly and annual FDI flows, FDI inflows as a breakdown of economic sectors, productivity per worker data, and labor force participation rate and distribution. The majority of the data from CBE is in the Annual Reports and Monthly Statistical Bulletins, which the author has gathered to own statistical software.

The World Bank has an extensive database on FDI; FDI, net inflows (percent of GDP) is based on the IMF, International Financial Statistics and Balance of Payments (BoP) databases, International Debt Statistics, and the World Bank and OECD GDP estimates. Moreover, FDI on net inflows (Balance of Payments, current US\$) is based on IMF's Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development (UNCTAD) and official national sources. The GDP per capita (current US\$) data, an indicator of economic growth, is based on World Bank national accounts data and OECD National Accounts data files. Furthermore, the World Bank Private Participation in Infrastructure (PPI) database provides data on infrastructural FDI-driven projects. Furthermore, the International Labor Organization's (ILO) dataset is utilized to grasp the total unemployment rate in Egypt over time. FDI Markets is a service from the Financial Times which presents a greenfield investment employment overview to understand potential employment spillovers from inward FDI.

5.6 Limitations

During the process of analysis, a number of limitations were identified. The thesis focuses merely on FDI, yet it needs to be emphasized that FDI data do not give a complete picture of international investment in an economy (World Bank, 2023b). Balance of payments data on FDI excludes capital raised locally, which may be an important source of investment financing in Egypt, which is a thesis limitation. The research objective encountered an issue with limited data on several variables. Foremost, articles from CBE are available from 2002 onwards. Data on the share of FDI per sector are only accessible from 2007 onwards, limiting to drawing conclusions on the area during the entire time period studied. Furthermore, the breakdown by economic sector is merged in FY 2019/2020 compared to FY 2007/2008; the financial sector is combined with the service sector in FY 2019/2020, and the variable 'other' is included in undistributed. The latter complicates the process of interpreting changes in FDI inflows per sector over the decade.

Furthermore, there is a lack of data on educational attainment in Egypt, with only data available from 2006 and 2017 from the World Bank, which aggravates the possibility of analyzing human capital as an indicator of absorptive capacity in the country. There is no data available on brownfield FDI and its potential employment spillovers, which confines the analysis. Finally, there is no data on capital or skill transfer spillovers available, which limits the analysis to infrastructural, technological, and employment spillovers. Certainly, the thesis is subject to data discrepancy. The lack of data constrained the argument of few or no, impacts of FDI in Egypt. Nevertheless, limited data is presumably a problem in the majority of developing countries and not only of matter in Egypt. Notwithstanding these limitations, the documents and data collected are sufficient for analyzing FDI and its importance to the Egyptian economy. Particularly data on trends of FDI inflows, sectoral distribution of FDI, productivity per worker, and labor force participation rates were found to be adequately sufficient to understand several aspects of FDI and its spillovers in Egypt.

6. Analysis

Following the presented theoretical framework leads to the analysis of the thesis, which is structured as follows; firstly, a brief analysis of the actions by the government to attract FDI in the section policies and reforms, followed by the subheading trends of FDI inflows, which discuss the evolution of foreign investment in Egypt. Section 6.3 discusses the sectoral distribution of FDI inflows in Egypt and how it has changed over time, with a particular focus on petroleum, manufacturing, construction, and service. Macroeconomic indicators with a specific focus on real GDP, productivity growth, labor force participation, and educational attainment is the theme of section 6.4. Lastly, section 6.5 is a discussion on FDI spillovers, focusing on infrastructural, technological, and employment spillovers.

6.1 Policies and Reforms

Policies are necessary for the stages of absorptive capacity to attract MNCs to invest in the country (Nguyen et al., 2009). The section on policies and reforms focuses merely on actions by the government of Egypt (hereafter, GOE) to attract FDI to the country. The purpose of the section is to demonstrate an overview of the actions of GOE that have been decisive for FDI.

Attracting FDI has been central to the development strategy of Egypt since 1994 and the GOE has embarked on a program of financial liberalization to attract foreign investors to the country (Bonaglia & Goldstein, 2006; OECD, 2020). The reforms have included eliminating exchange controls, liberalization of banking and insurance sectors, modernization of the capital market, and reducing taxation (Bonaglia & Goldstein, 2006). The program launched in 1994 is the Economic Reform and Structural Adjustment (ERSAP), and the second part focuses on encouraging foreign investment (Subramanian, 1997). The launch of ERSAP aimed to achieve macroeconomic stability, yet it arrived to be one of the first successful actions to encourage foreign investment to the country (UNCTAD, 1999).

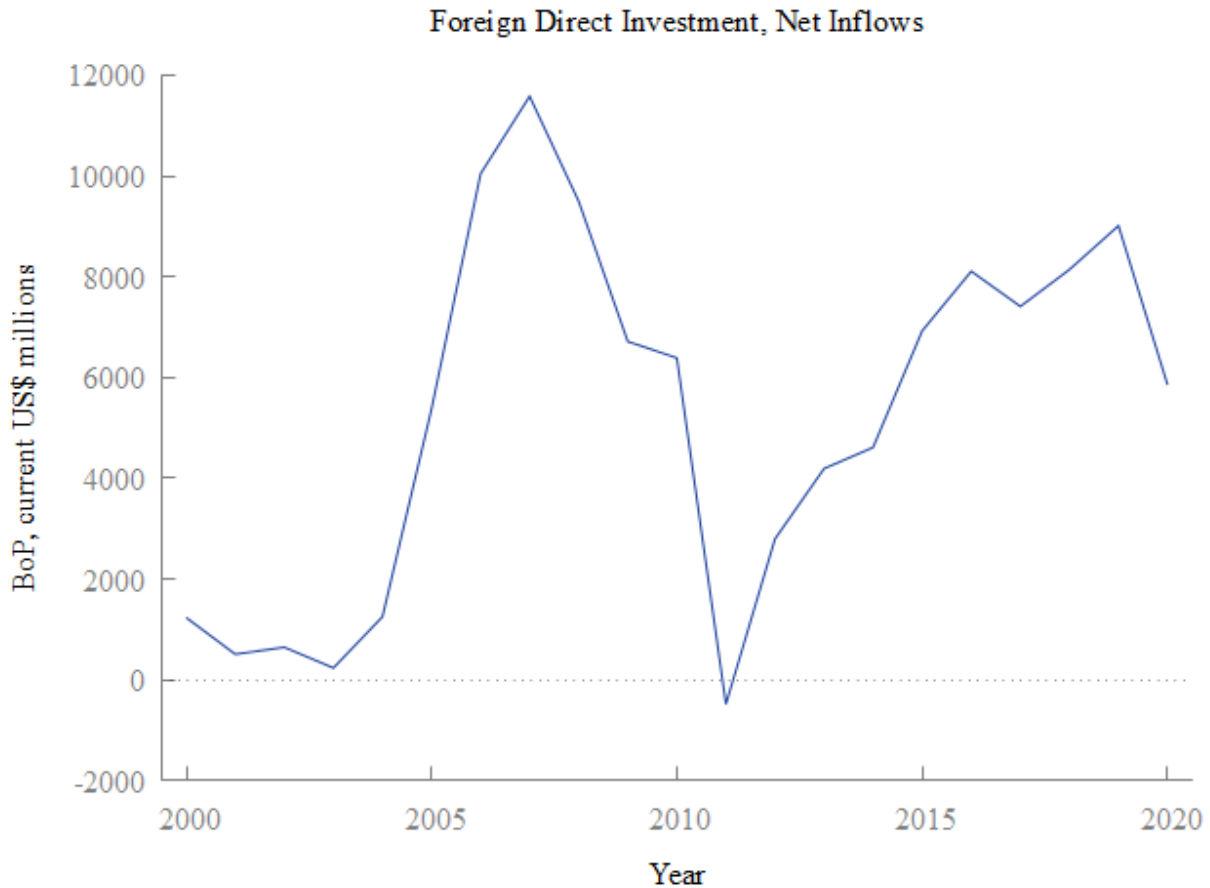
The UNCTAD Report on the implementation of the investment policy review for Egypt found that most of the policy recommendations issued in the Investment Policy Review (1999) have been implemented (UNCTAD, 1999, 2006). During the early 2000s and following the UNCTAD Investment Policy Review for Egypt, GOE empowered the General Authority for Investment and Free Zones (GAFI) to be a 'one-stop shop' for foreign and domestic investment (Hanafy, 2015; UNCTAD, 2006). GAFI aids in facilitating FDI inflows in the country, and FDI inflows steadily increase after the facility's launch (Hanafy, 2015). The average amount of time to register a company dropped from an average of 34 days to only three days after the establishment of GAFI (Stone, 2006). The Income Tax Law No. 91 of 2005 aimed to provide domestic and foreign investors with uniform tax treatment (GOE, 2005).

Since the flotation of the Egyptian Pound in November 2016, the GOE has undertaken several structural reforms (Leisle, 2020). The most recent are the new investment law in 2013; the new companies law and bankruptcy law in 2018; and the new customs law in 2020 (Leisle, 2020). The Investment Law no 72/2017 is designed to attract investment and provide a framework for the GOE to offer investors more incentives (GOE, 2017a). The Customs Law No. 207 of 2020 was implemented to streamline aspects of import and export procedures (GOE, 2017b). The GOE has introduced various laws and regulations to encourage FDI in Egypt, which undeniably has succeeded when analyzing the trends and patterns of FDI inflows in the country. However, regarding the quality of institutions, the corruption in GOE is noteworthy as it most likely has hindered the country from absorbing benefits from FDI (OECD, 2018).

6.2 Trends of FDI Inflows

It is decisive to have an insight into the trends of FDI inflows over the twenty-first century in Egypt. The section will provide knowledge of changes in foreign investment inflows between home regions and greenfield investment changes. Awareness of trends of FDI inflows is crucial in grasping the research problem and the upcoming discussion.

Figure 4. FDI, Net Inflows Egypt. 2000-2020



Source: Authors' own graph with data compiled from the World Bank (2023a) database based on the International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and official national sources.

Note: Based on the author's calculations of millions of dollars.

The FDI inflows during the twenty-first century in Egypt have been unstable, following global and national economic and political conditions (Figure 4). UNCTAD's World Investment Report (2000) highlighted Egypt, South Africa, and Morocco as the most attractive African location for foreign investments. The countries targeted the most mergers and acquisitions (M&A) activity at the end of the 1990s, while the activity was low in the other African countries (UNCTAD, 2000). However, UNCTAD reported in 2006 that Egypt underperformed in attracting FDI in the 2000s and that it goes beyond the general weaknesses associated with the global slowdown (UNCTAD, 2006). Shortly after the statements from UNCTAD, FDI inflows in Egypt peaked (Figure 4).

As a reflection of the stability of the investment climate, net FDI significantly increased during FY 2004/2005 and continued uninterrupted until the peak in 2007 (CBE, 2007; Figure 4). The nominal inflows of foreign investments peaked in 2007 at US\$ 11.6 billion; however, the inflows turned down shortly afterward due to the global financial crisis in 2008 and the Arab Spring in 2010-2011 (OECD, 2018). The Arab Spring resulted in FDI inflows hitting a negative US\$ 482.7 million; following the revolution, flows soared in 2012 to US\$ 2.8 billion due to political support from Qatar (Ayed & Badr, 2015; OECD, 2018). Nevertheless, inward FDI remains relatively stable in Egypt. The country seeks to attract more foreign investments, as expressed in the GOE-launched 'Egypt Economic Development Conference' in Sharm El Sheikh in March 2015 (GOE, 2015). Inflows continued to rise, and UNCTAD highlighted in World Investment Report 2020 that FDI inflows decreased in all regions of North Africa in 2019 except Egypt (UNCTAD, 2020). The decrease in 2020 is presumably due to the COVID-19 pandemic that affected global economic conditions severely (Figure 4).

During the evolution of hosting FDI in Egypt, the sources of FDI have broadened, and the number of home countries investing in the country has increased after the OECD Declaration of International Investment and Multinational Enterprises that GOE signed on the 11th of July 2007 (OECD, 2007). As reported by the CBE, the primary home region to FDI in Egypt in the fiscal year (henceforth, FY) 2002/2003 was the European Union (EU) countries, with a total of 524.1 US\$ million invested in Egypt out of the total inflows of 686,5 US\$, covering approximately 76 percent of total investment (Table 1). The EU holds the position of the significant home region to FDI in Egypt in FY 2019/2020, with 5447,3 US\$ out of 9160 US\$ inflows, covering 59% of total investments (Table 2). Arab countries have replaced the United States (US) as Egypt's second-largest home region to FDI (Table 1; Table 2). Approximately 50 home countries invested in Egypt in FY 2019/2020 compared to 18 in FY 2002/2003 (CBE 2005, 2021a). Considerable countries such as China, Netherlands, Luxembourg, Malta, and several others started appearing on the foreign investors' list, yet account for a low percentage of the total FDI inflows, except for Belgium (CBE, 2021c). According to the latest documented FY, the primary investor list is dominated by the United States of America (USA), the United Arab Emirates (UAE), France, and the United Kingdom (UK) (CBE, 2021c).

Table 1. Geographical Distribution of Home Countries for FDI in Egypt. FY 2002/2003, 2003/2004

	FY 2002/2003	2003/2004
Total Inflows	686,5	112,9
USA	155,1	39,6
EU Countries	524,1	22,2
Arab Countries	2,4	48,4
Other Countries	4,9	2,7

Source: Authors' own table with data compiled from CBE (2005).

Note: Inflows are reported in US\$ million.

Table 2. Geographical Distribution of Home Countries for FDI in Egypt. FY 2018/2019, 2019/2020

	FY 2018/2019	2019/2020
Total Inflows	8008,2	9160
USA	630,6	745,8
EU Countries	4713,9	5447,3
Arab Countries	1666,8	1928,2
Other Countries	996,9	1039,6

Source: Authors' own table with data compiled from CBE (2021a).

Note: Inflows are reported in US\$ million.

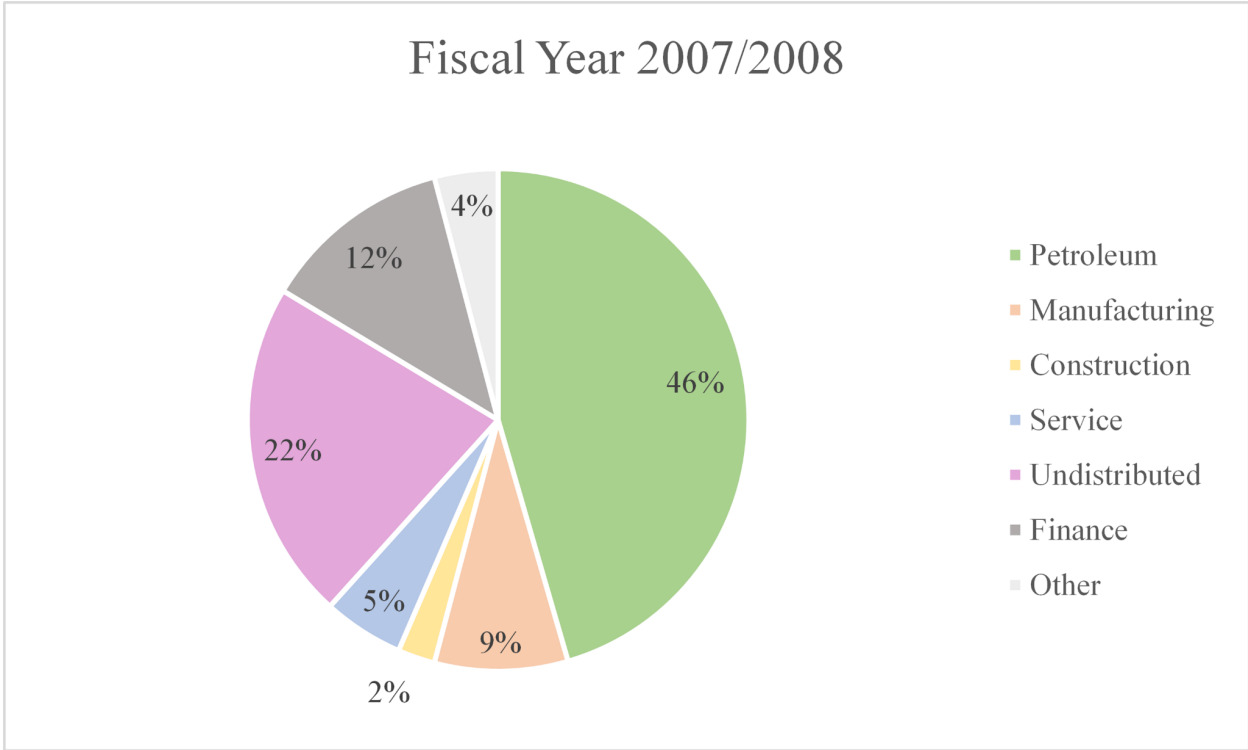
Greenfield investments are fundamental to FDI in Egypt (FDI Markets, 2018). The primary investors of greenfield FDI in Egypt between 2003 have been the UAE (27 percent) and Qatar (12 percent) (FDI Markets, 2018). The reason behind the low indicated brownfield investments is that few local companies with sufficient assets are of interest to MNCs to M&A in Egypt (FDI Markets, 2018; UNCTAD, 1999). In this case, MNCs prefer to build up everything related to the investment from the ground; therefore, greenfield investments are Egypt's primary investment source (Savuant, 2011). The inflows of greenfield investments decreased simultaneously with the financial crisis and the Arab Spring, yet the drop was less severe than that observed in M&As (Savuant, 2011).

6.3 Sectoral Distribution of FDI Inflows

As previously mentioned in the theoretical framework, a country's absorptive capacity is argued to shift depending on the sector receiving FDI; therefore, changes in the sectoral distribution of FDI are essential to analyze. The sectors analyzed are petroleum, manufacturing, construction, and service.

The private sector significantly impacts Egypt's economy and provides a large share of total output (Jodeh, Kamar, Selim, & Tiemann 2021). The sectors of the economy that have received FDI have evolved, yet the following section aims to focus on are; petroleum, manufacturing, construction, and service sectors. Due to changes by the CBE, the financial sector is included in the service sector in FY 2019/2020.

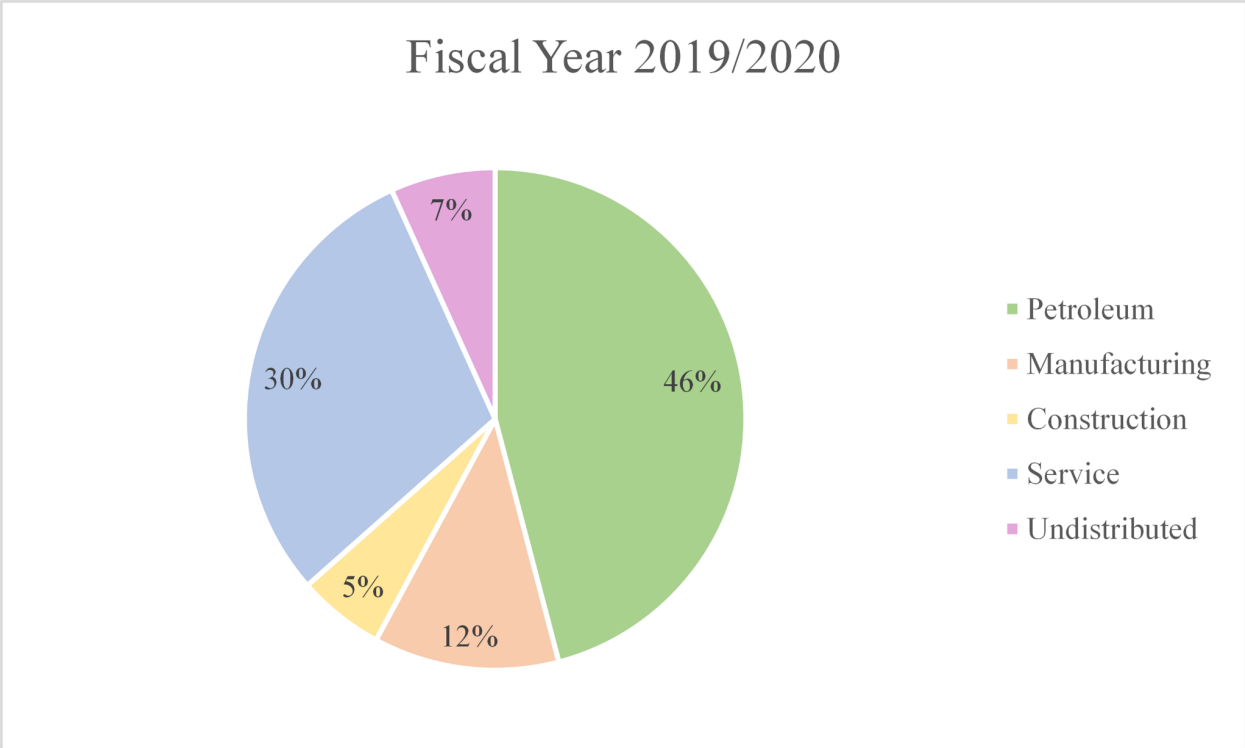
Figure 5. FDI Inflows (%), Breakdown by Economic Sector: FY 2007/2008



Source: Authors' own pie chart with data compiled from CBE (2009) Annual Report 2007-2008 (1st of January 2009).

Due to a lack of available data, the first breakdown by economic sector in FDI inflows is FY 2007/2008; as portrayed above in *Figure 5*, the central sector receiving FDI was the petroleum sector, receiving 46 percent of FDI inflows. The following largest sector is undistributed, which is difficult to interpret as the CBE does not provide any information on what the sector includes.

Figure 6. FDI Inflows (%), Breakdown by Economic Sector: FY 2019/2020



Source: Authors' own pie chart with data compiled from CBE (2021) Annual Report 2019-2020 (1st of January 2021).

Figure 6 displays the sectoral distribution of FDI inflows in Egypt's FY 2019/2020. The petroleum sector remains the largest FDI recipient, receiving 46 percent of total FDI inflows. The second largest sector is the service sector, receiving 30 percent of total FDI inflows (*Figure 6*). The service sector has experienced a significant increase in FDI inflows compared to the FY 2007/2008, from 5 to 30 percent (*Figure 5*; *Figure 6*). The majority of the sectors grew reasonably, resulting in substantial economic growth during 2018; a GDP growth rate of 5.3 percent was indicated during 2018 (CBE, 2019a). Nevertheless, the spread of FDI across sectors is uneven, where some sectors receive a high share of FDI inflows and others receive a minimal

share. The following subheadings provide a brief overview of the sectors' FDI development in Egypt; however, it must be highlighted that FY 2019/2020 does not include 'finance' or 'others,' which explains the growth in the sectors. The share of undistributed FDI has decreased, likely explained by the fact that the projects have been categorized into one of the other existing sectors.

6.3.1 Petroleum

The petroleum sector has had a consistently large part of FDI inflows to Egypt throughout the twenty-first century. In 1999, Egypt and Nigeria together absorbed three-quarters of the FDI flows to the oil-exporting countries of Africa (UNCTAD, 1999). The prominent presence of oil in Egypt made the resource-based investment the most significant component in U.S. and European FDI flows to Egypt (UNCTAD, 1999). The oil and gas exploration and development upstreamed further at the beginning of the twenty-first century (UNCTAD, 2006). The petroleum sector saw progressive growth rates in FDI inflows during the 2010s, which is forecasted to continue (Institute of International Finance, 2018). The lion's share of the sector has been increasing since the Egyptian discovery of offshore gas reserves in 2016, attracting investments from MNCs further (UNCTAD, 2019). Furthermore, greenfield investments in the sector have increased further in the country during the late 2010s (UNCTAD, 2019).

6.3.2 Manufacturing

The manufacturing industries have witnessed solid performances, and the share of total FDI inflows has increased in the last decade (CBE, 2009, 2021b). UNCTAD projected that the industry would likely provide the bulk of FDI shortly after 1999 (UNCTAD, 1999), which ended up being relatively accurate. Out of total FDI inflows, the share of the manufacturing sector increased from 2.2 percent in FY 2015/2016 to 12.0 percent in FY 2019/2020 (CBE, 2017, 2021b). The sector is projected to continue to grow as a new textile industrial zone in the Suez Canal Economic Zone attracted China to invest around US\$ 830 million (UNCTAD, 2019).

6.3.3 Construction

The construction sector includes several development projects, such as housing resorts, infrastructure, and commercial buildings (CBE, 2009). The sector has risen in the last decade and reached a peak of US\$ 745.7 million in 2015, followed by a decline (CBE, 2017, 2019a). The share of foreign investments related to construction projects has increased in the last decade (CBE, 2009, 2021b). The private sector has the largest share, covering around 90.4 percent of total construction investments in 2018 (CBE, 2019a).

6.3.4 Service

With a total employment share of 52,44 percent, the service sector was Egypt's most significant employment driver in 2019 (Statista, 2023). The sector's importance has steadily increased by 6,15 percentage points since 2009 (Statista, 2023). By FY 2019/2020, the finance sector included the service sector, which additionally consists of the real estate sector, tourism sector, communication, information technology sector, and the tourism sector (CBE, 2021b). As indicated in *Figure 5* and *Figure 6*, the total share of the service sector has increased significantly. Egypt's increasing political stability and safety atmosphere explains the sector's increase since service heavily relies on it (OECD, 2018). Furthermore, the service sector, or more specifically, the real estate sector, has been the largest beneficiary of greenfield FDI (OECD, 2018).

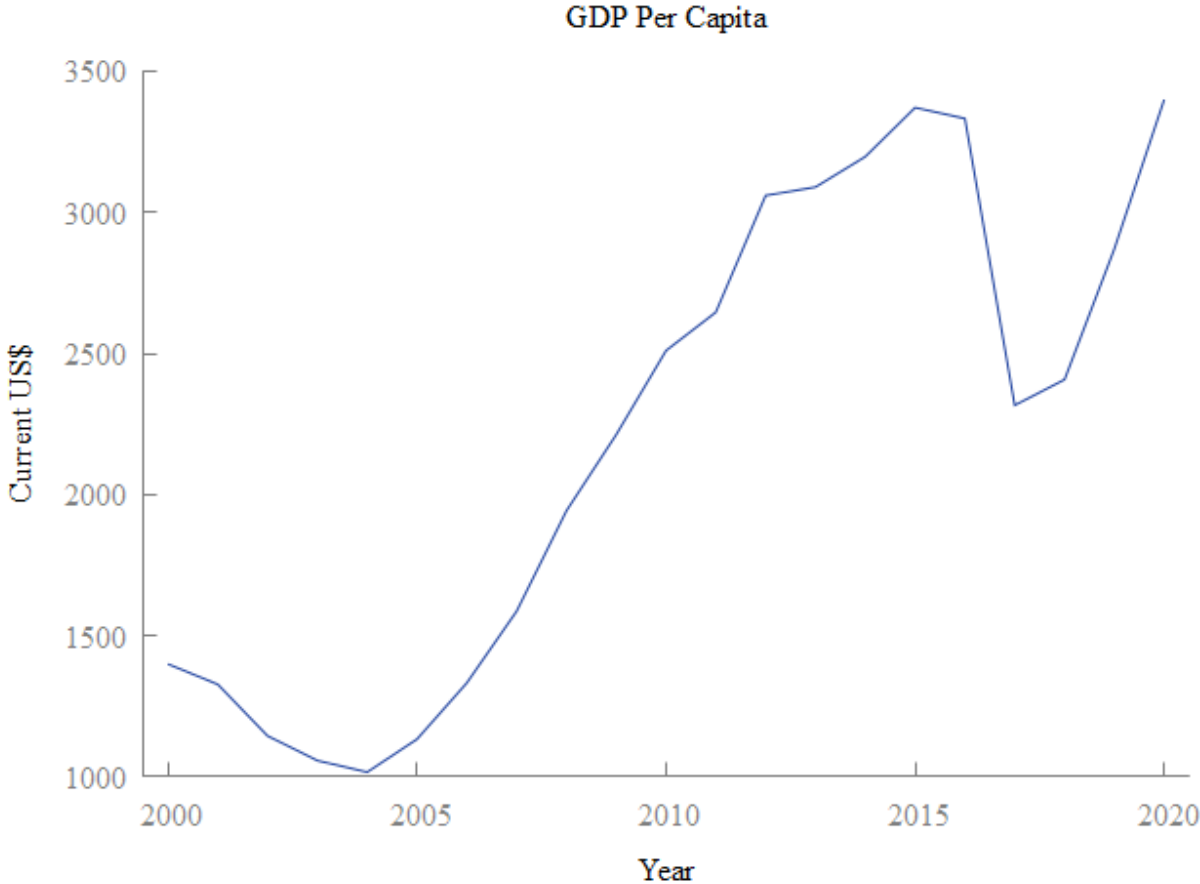
6.4 Macroeconomic Indicators

Macroeconomic indicators are variables that reflect the output of the economy. There are several macroeconomic indicators of an economy; however, the section focuses on real GDP, productivity growth, employment rate, and educational attainment since those factors are, according to a significant number of academic discourses, closely related to FDI inflows and absorptive capacity.

6.4.1 Real GDP and Productivity Growth

Egypt is one of Africa's most promising developing countries (OECD, 2018). As indicated below in *Figure 7*, growth in GDP per capita has been significant during the last decade, except for a drop in 2016 due to political movements (OECD, 2018).

Figure 7. GDP Per Capita, Egypt. 2000-2020



Source: Authors' own graph with data compiled from World Bank (2023b) database based on World Bank national accounts data, and OECD National Accounts data files (2023).

Egypt's GDP per capita has recovered after the movements, yet the growth rates have fluctuated over the last two decades (Figure 8). The most significant growth rate is noted in FY 2005/2006 (Figure 8).

Figure 8. GDP Per Capita Growth Rate (annual %), Egypt. 2000-2020



Source: Authors' own graph with data compiled from World Bank (2023c) database based on World Bank national accounts data, and OECD National Accounts data files (2023).

Considering productivity growth in Egypt, a significant increase is indicated during the last decade. The productivity per worker (calculated through GDP at current market prices divided by the number of employees) has increased from 20 381 in FY 2000/2001 to 223 473 in FY 2019/2020 (CBE, 2012, 2021b; Figure 7). Figure 8 displays the consistently increasing productivity per worker during the twenty-first century. Considering productivity growth, the service sector has increased the most of the previously emphasized sectors of the economy (CBE, 2019b). The highest GDP growth rate occurred at the same time when the FDI inflows peaked (Figure 7; Figure 8). CBE argues that Egypt's improved economic performance expanded the country's absorptive capacity (CBE, 2008).

Figure 9. Productivity Per Worker (GDP at Current Market Prices/Number of Employees), Egypt. 2000-2020



Source: Authors' own graph compiled and computed by the author with data based on Monthly Statistical Bulletin 189 and Monthly Statistical Bulletin 297, CBE (2012, 2021c).

Note: Productivity per worker is calculated by GDP at current market prices divided by number of employees.

6.4.2 Labor Force Participation

Figure 10 illustrates the unemployment rate in Egypt from 2000 to 2020. Presumably, the trend of increasing unemployment between 2010 to 2013 is due to the Arab Spring and a reflection of the global financial crisis (Figure 10). However, there is no indication that the unemployment rate has followed the rate of GDP per capita (Figure 8; Figure 10). During recent years the unemployment rate has decreased significantly from the high levels in 2015 (Figure 10). Surprisingly, unemployment rates remained low during 2020 when COVID-19 surged globally, yet such trends might be visible in the following years.

Figure 10. Unemployment Rate, Egypt. 2000-2020



Source: Authors' own graph with data compiled from the International Labor Organization (ILO) (2023)

Note: Unemployment rate refers to people of working age, meaning the share of the labor force, that is available for and seeking employment (ILO, 2023).

Table 3 and Table 4 below indicate the evolution of the labor force in Egypt from 2000-2009 and 2010-2020. The labor force participation rate increased from 17.2 to 26.2 in 2020, yet it is not possible to conclude that it results from FDI inflows (Table 3; Table 4). The public enterprise sector remains low in employment, while the private sector employment has increased over time, where the latest documented participation rate is the peak (Table 3; Table 4). On the other hand, government sector employment has remained relatively stable over the years. The sectors receiving the majority of FDI - petroleum and service - generate relatively limited long-term local employment (OECD, 2018). The sectors are not tightly integrated into global production chains, justifying a small employment effect in Egypt (OECD, 2018). The employment effect is, therefore, considered to be rather small in Egypt during the twenty-first century. However, the CBE reported in the Annual Report of 2006/2007 that the better economic performance in the country caused an expansion in the absorptive capacity of the labor market, explaining the increase in the employment rate (CBE, 2008; Table 3; Table 4).

Table 3. Labor Force Participation, Egypt. 2000-2009

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Labor Force: 15 years and above (mn)	18,9	19,3	19,9	20,4	20,9	21,8	22,9	23,9	24,7	25,4
Total Employment: 15 years and above (mn)	17,2	17,6	17,9	18,1	18,7	19,3	20,4	21,7	22,5	23
Unemployment: 15-64 years (mn)	1,7	1,78	2,02	2,24	2,15	2,44	2,43	2,13	2,14	2,38
Unemployment Rate (%)	9	9,2	10,2	11	10,3	11,2	10,6	8,9	8,7	9,4
By Employment Sector										
Government Sector (mn)	4,8	4,9	5	5,2	5	5	5,2	5,4	5,3	5,4
Public Enterprise Sector (mn)	1,1	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	0,7
Private Sector (mn)	11,2	11,4	11,7	11,7	12,6	13,3	14,2	15,1	16,0	16,5

Source: Authors' own table with data compiled from CBE (2011) Monthly Statistical Bulletin 166.

Note: mn is an abbreviation for million.

Table 4. Labor Force Participation, Egypt. 2010-2020

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Labor Force: 15 years and above (mn)	26,2	26,5	27,0	27,6	27,9	28,4	28,9	29,5	28,9	28,3	28,5
Total Employment: 15 years and above (mn)	23,8	23,3	23,6	24,0	24,3	24,8	25,3	26,0	26,0	26,1	26,2
Unemployment: 15-64 years (mn)	2,4	3,2	3,4	3,6	3,6	3,6	3,6	3,5	2,8	2,2	2,3
Unemployment Rate (%)	9,0	12,0	12,7	13,2	13,0	12,8	12,5	11,8	9,9	7,9	7,9
By Employment Sector											
Government Sector (mn)	5,5	5,5	5,5	5,3	5,3	5,0	4,7	4,6	5,3	5,0	4,9
Public Enterprise Sector (mn)	0,2	0,7	0,8	1,0	1,0	0,9	0,9	0,8	0,7	0,7	0,7
Private Sector (mn)	17,1	17,0	17,0	17,2	17,6	18,4	19,3	20,1	19,9	20,3	20,5

Source: Authors' own table with data compiled from Monthly Statistical Bulletin 297 (CBE, 2021c).

Note: mn is an abbreviation for million.

6.4.3 Educational Attainment

As previously mentioned in the theoretical framework, a country's primary indicator of human capital is educational attainment. Nevertheless, UNESCO Institute for Statistics presents data from 2006 and 2017 on educational attainment in Egypt. Educational attainment, at least completed upper secondary for the population aged above 25, was 40,4 percent in 2006; the number increased to 67,2 in 2017, indicating a significant increase in the variable (World Bank, 2023). However, the quality of education in the country is debatable and considered an issue in the country (Loveluck, 2012).

6.5 FDI Spillovers

The following section emphasizes evidence on spillovers from FDI in Egypt. As the literature review covered several types of spillovers, the analysis focuses solely on infrastructural, technological, and employment spillovers due to data issues. However, it is necessary to highlight that spillovers are difficult to measure, yet the subject is further discussed in section seven.

6.5.1 Infrastructural Spillovers

In the past decade, FDI has supported the development of Egypt's telecommunications, networks, ports, and electricity supply (OECD, 2018). *Table 5* presents the distribution of infrastructural FDI-driven projects per sector between 2005-2008 (see Appendix A for particular projects and country of origin). Concerning infrastructure, the ICT sector has been the largest recipient of FDI inflows between 2006 and 2017 (*Table 5*). Etilisat is the Emirati telecom operator that invested US\$ 7.2 billion in acquiring a 3G mobile license in 2006, which explains the large number of infrastructural-driven projects that year (OECD, 2018). Moreover, green energy production encountered a large number of projects in 2017, with a total worth of US\$ 2.9 billion during that year; of those projects, US\$ 2800 million were infrastructural driven (OECD, 2018; *Table 5*). A national policy in the form of tariff and rate guarantee increased investment in green energy, which explains the increasing number of projects (OECD, 2018; *Table 5*).

Table 3: Infrastructural FDI-Driven Projects Per Sector, Egypt. 2006-2017

Total Investment US\$ million Per Sector						
Investment Year	ICT	Ports	Energy	Electricity Generation	Wastewater Treatment	Transport
2006	3075	0	0	0	0	0
2007	350	730	469	0	0	0
2008	85	640	0	0	0	0
2009	845	0	0	0	0	0
2010	1326	0	0	0	475	0
2011	322,6	0	0	0	0	0
2012	320	0	0	276	0	0
2013	335	0	0	0	0	0
2014	280	0	0	0	0	0
2015	310	0	0	0	0	0
2016	0	0	0	100	0	0
2017	0	0	2386,37	0	0	504
Total	7248,6	1370	2855,37	376	475	504

Source: Authors' own table with data compiled from World Bank Private Participation in Infrastructure (PPI) database (2018).

Note: ICT is an abbreviation for Informainfrastructuralcation Technology.

Total investments include equity and debt from all sources - private, public, domestic, and foreign. The PPI database does not include a breakdown of investment sources for all projects.

Investment in ports has not driven any infrastructure forward in the latest years (Table 5). As displayed in *Appendix A*, the UAE is the country responsible for the majority of infrastructural driven-projects. Nevertheless, the increase in infrastructural projects in recent years is a result of a newly implemented national policy in the form of tariff rate guarantees which encourage FDI-driven infrastructural projects in all of the sectors of the economy (OECD, 2018; Table 5). The law is indeed successful, and further development in infrastructure through investment is expected, which eventually aids the absorptive capacity of the country.

6.5.2 Technological Spillovers

To draw conclusions on the impact of technological spillovers through FDI across the Egyptian economic sector is challenging. While Salem (2015) found no statistical evidence that FDI has a spillover effect regarding technology in the country, Fattah (2014) indicates that inward FDI has resulted in technological spillovers in Egypt. The absorptive capacity is emphasized as the

primary explanatory variable for positive spillovers (Fattah, 2014). Concerning the sectors receiving the FDI in Egypt, service and petroleum, as previously mentioned, are not tightly integrated into global production chains (OECD, 2018). The latter reduces the belief in skills upgrading of Egyptian workers; however, as the sector has a high propensity for job creation, it has the availability for technology transfers (2020). Nevertheless, technological spillovers are argued to differ depending on the labor force's productivity level (Liu, 2008).

6.5.3 Employment Spillovers

Due to a lack of data on brownfield-driven employment in Egypt, the employment spillover narrative focuses on greenfield investments. From 2013 through 2017, the primary investing home countries for greenfield FDI in Egypt were UAE with 52 projects, the US with 45 projects, and Saudi Arabia with 29 projects (FDI Markets, 2018). The main economic sectors for investments were finance and construction (FDI Markets, 2018).

Table 6. Announced Greenfield Investment Project Overview, Egypt. 2013-2017

Year	2013	2014	2015	2016	2017
Number of Projects	49	59	66	79	92
Capital invested (US\$ Billion)	4,37	17,63	14,7	40,91	37,62
Jobs created (thousands)	7453	22810	13107	19181	17524

Source: Authors' own table with data compiled from FDI Markets (2018)

As indicated in *Table 6*, greenfield investments in Egypt have progressively increased from 2013 to 2017. However, compared to 36 other countries in a study focusing on greenfield-generated employment from 2003-2019, Egypt is ranked among the countries generating the lowest employment out of the countries studied (Koczan, Paetzold & Vujic 2021). Nevertheless, there is evidence of employment spillovers in Egypt, although the effect is not as large as expected, considering the high amount of FDI the country receives.

7. Discussion

The trends of FDI inflows in Egypt have been volatile during the twenty-first century; however, the country has immense potential to leverage its strategic location and large market size to attract untapped investment. As emphasized in the literature review, knowledge spillovers, employment spillovers, and technology transfer through hosting FDI promote economic growth. The following section aims to discuss the findings in the analysis and Egypt's absorptive capacity.

The analysis covered eventual spillovers from FDI in Egypt during the twenty-first century. Concerning infrastructural spillovers, the amount of capital invested in infrastructure is slightly minimal compared to the total capital invested by MNCs in Egypt. The quality of infrastructure due to FDI may, therefore, be insufficient to reduce operational costs for MNCs or to utilize imported technology. The state of infrastructure is at risk of hindering the process of attracting more FDI inflows to Egypt; however, as an increase in infrastructural-driven projects is documented, the future may hold better conditions for the state of infrastructure in Egypt.

There is scarce evidence on technological spillovers from FDI in Egypt; however, some conclusions can be drawn. It is noted that the sector receiving FDI is vital for technology spillovers. Petroleum and service sectors are not tightly integrated into global production chains, resulting in fewer technological spillovers. However, there is potential as the sectors have a propensity for creating jobs; an increasing labor force is more prone to technology transfer. The sector receiving FDI is argued to determine the absorptive capacity, whereas the service sector has better economic growth prospects. A more liberalized service sector would increase the absorptive capacity. Given the increase in productivity per worker in Egypt, as indicated in *Figure 9*, the potential of technological spillovers is expected to have increased simultaneously with the upsurge in productivity per worker. The technological spillovers from FDI in Egypt are, nonetheless, difficult to measure with the available data. However, it is possible to conclude that in the case of labor mobility from an MNC to a local firm, the worker definitely brings technological skills, resulting in technology spillovers to some degree.

Concerning spillovers from FDI to employment, it is noted that there is increasing job creation from greenfield investment. As a result of greenfield investments, numerous people got employment; however, greenfield-driven employment is relatively low in comparison to total investment and the large population in Egypt, and it is, therefore, difficult to conclude that it has enhanced development in the country. Additionally, there is no data on brownfield-driven employment, which, however, is less likely to occur. However, the unemployment rate in Egypt has recently decreased, and the unemployment rate was relatively low during the peak of FDI inflows around 2006 to 2009. The decrease in unemployment may be a lagging effect of increasing FDI in the aftermath of the Arab Spring.

The theory of absorptive capacity is defined in the theoretical framework - absorptive capacity is necessary for a country to take advantage of the spillover effects generated by FDI. The CBE argued that better economic performance had increased the absorptive capacity in Egypt. The theoretical framework discussed three major absorptive capacity factors: human capital, infrastructure, and institutions. Due to a lack of data, it is difficult to conclude the factor of human capital to absorptive capacity. However, since there is indicated that educational attainment is growing in the country, it may have increased the absorptive capacity of Egypt; an educated workforce is necessary to benefit from the externalities of FDI. Furthermore, the increasing number of infrastructural-driven investments is positive for absorptive capacity. Further investments and development of infrastructure would be beneficial, not only for attracting MNCs but for the country's absorptive capacity. Following the stages of absorptive capacity, GOE has implemented several incentive policies to attract MNCs and manage FDI inflows. Furthermore, the quality of institutions is essential for absorptive capacity; the corruption of Egypt is at risk of hindering the country from sufficient absorptive capacity since corruption may cause economic instability. Based on the thesis, one is able to conclude that the absorptive capacity in Egypt has increased during the twenty-first century along with increasing FDI liberalization and laws, increasing human capital, and better infrastructure. Spillovers occur in degrees; there is evidence of progress in Egypt, yet more action is needed for the country to enjoy a full spillover effect.

FDI spillovers have partly contributed to Egypt's economic growth. The GOE has implemented incentive laws to attract FDI, yet, it has not targeted corruption and the lack of essential infrastructure to exploit FDI benefits. Furthermore, FDI has led to the creation of job opportunities and developed infrastructure to some extent. More significant positive evidence is expected in a country with better institutions, less corruption, and a higher absorptive capacity to absorb infrastructural, technological, and employment spillovers. It is necessary to acknowledge that FDI has a lag in its effect on the economy; spillovers from FDI do not necessarily co-occur with investments.

8. Conclusion

The thesis has dug deeper into FDI inflows and their spillovers during the twenty-first century in Egypt, answering the research question: *How have spillovers from inward foreign direct investment (FDI) contributed to Egypt's economic growth?* The thesis utilized an exploratory sequential design, a mixed-methods approach applying qualitative and quantitative analysis. The process of qualitative analysis relied on document analysis of national and international public documents and secondary papers. The quantitative analysis relied on data collection from several national and international papers and datasets, displayed through graphical representation. The literature review covered scholarly evidence from the FDI-led growth hypothesis and potential spillover effects from FDI on the host economy. FDI expects to positively influence economic growth in the host country is akin to the neoclassical and endogenous growth models and to several empirical evidence. The emphasized spillovers were capital spillovers, technology spillovers, skill transfer spillovers, employment spillovers, and infrastructure spillovers. Section four, theoretical framework, focused on the theory of absorptive capacity, a country's ability to exploit spillovers from FDI and enhance economic growth. The three main determinants of absorptive capacity discussed are human capital, institutions, and infrastructure.

The analysis covered policies and reforms, trends of FDI inflows, sectoral distribution, macroeconomic indicators, and FDI spillovers in Egypt. It was found that the Egyptian government has taken several actions towards liberalization of the market to attract and exploit FDI. Inward FDI has been volatile during the twenty-first century in Egypt, although the country remains the top recipient in Africa. The primary home region to FDI in Egypt has been the European Union during the two centuries. There are two types of FDI - brownfield and greenfield; where greenfield is the major type of FDI in Egypt. The sector that receives the most FDI is petroleum, followed by services, which saw a significant increase in the last years documented. In the section on macroeconomic indicators, it was noted that both GDP and productivity per worker increased during the period. Unemployment has decreased in the last few years, although it surged around 2015. Considering spillovers, it is indicated that there are increasing infrastructural-driven projects in Egypt. The sectors that receive the most FDI, petroleum and

service, are not tightly integrated into the global value chain, which may hinder technological spillovers; however, the sectors have promising potential for job creation. Furthermore, there is data on positive employment spillovers from greenfield investments in the country. The discussion concludes that there are spillovers from FDI in Egypt, although they remain low owing to several challenges. To increase the absorptive capacity and exploit the FDI spillovers, there is a need for less corruption in Egypt and further infrastructure development.

In conclusion, spillovers from FDI have contributed to Egypt's economic growth to some extent, although the benefits remain small due to a relatively low absorptive capacity. There are infrastructural spillovers from FDI in Egypt, yet considering the incredible amount of FDI the country receives, more infrastructural-driven projects would be expected. Greenfield investments generate employment spillovers, and the sectors receiving the most FDI, petroleum and service, have the potential for further job creation. Technology spillovers are expected with higher educational attainment and with incentive policies from the government. However, the main focus of the Egyptian government would be to target incentive policies, identify the potential of local companies, and lower corruption.

8.1 Implications

The research provides valuable insights for policymakers in developing economies, especially those seeking to attract and leverage FDI. The analysis of the impact of FDI on the Egyptian economy aids policymakers in gaining a more broad understanding of the potential benefits associated with FDI inflows. Moreover, the analysis of FDI trends, spillovers, macroeconomic indicators, and absorptive capacity intends to be an asset for the Egyptian government to exploit the externalities from foreign investment. The thesis assists in filling the literature gap regarding the impact of FDI on the Egyptian economy. Indeed, the study contributes not only to the case of Egypt yet the entire region of North Africa.

During the analysis process, the author noticed some policy recommendations for the Egyptian government to leverage FDI. Most importantly, less corruption is necessary to attract further FDI inflows and exploit its benefits. Besides lowering corruption, a policy framework that focuses on

developing the technological competitiveness of the economy by improving the absorptive capacity of local companies would be beneficial for Egypt. The first step by the government would be to target and identify local companies with high absorption potential. The policy framework should encourage local companies to create new technologies and R&D (research and development). Increasing absorptive capacity and economic growth are expected if the Egyptian government focuses on the latter steps.

8.2 Future Research

The following suggestions aim to deepen the understanding of FDI spillovers and absorptive capacity for future research. The thesis focused on one host developing country, Egypt, over the period 2000-2020. An extension of the time horizon would assess further how absorptive capacity evolves and the dynamics of FDI impacts in Egypt. Moreover, it is necessary to follow modern trends consistently to understand changes in economic conditions and inward FDI. An additional recommendation for future research focusing on Egypt is to aim attention to firm-level performance in different sectors considering FDI inflows and absorptive capacity. Research on firm-level performance that tracks changes in performance is a recommendation since different sectors have distinct characteristics and absorptive capacities, which influence the magnitude of spillover effects. Focusing on firm-level performance in specific sectors would aid the government in identifying sector-specific policies and strategies to optimize the externalities of FDI. A last recommendation for further research within the field is comparing another host-developed country to compare developments and policy implications. Such comparison may assist and benefit developing host countries in FDI spillovers and absorptive capacity. Future research has the opportunity to build upon the present thesis and contribute to the evolving knowledge of the field.

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Appendix A

Infrastructural FDI Driven Projects in Egypt, 2006-2017

Project	Investment Year	Sector	Total Investment (US\$ million)	Foreign Investors (% ownership, country of origin)
Etilsalat Misr	2006	ICT	3075	Etilsalat (66%, UAE)
Etilsalat Misr	2007	ICT	350	Etilsalat (66%, UAE)
Suez Canal Container Terminal	2007	Ports	730	COSCO Group (20% China), AP Moller - Maersk Group (55% Denmark)
East Mediterranean Gas Pipeline Company	2007	Energy	469	Merhav Group (25%, Israel), PTT Public Company Ltd. (25%, Thailand)
Etilsalat Misr	2008	ICT	85	Etilsalat (66%, UAE) Kuwait and Gulf Link Holding Company (30%, Kuwait), China Shipping Group Company (20%, China)
Damietta port	2008	Ports	640	(20%, China)
Etilsalat Misr	2009	ICT	845	Etilsalat (66%, UAE)
Kuraymat Solar/CCNG Plant	2010	Electricity generation	314,7	Solar Millennium (Germany)
New Cairo Wastewater Treatment Plant	2010	Wastewater treatment	475	Fomento de Construcciones y Contratas SA (FCC) (50%, Spain)
Etilsalat Misr	2010	ICT	1326	Etilsalat (66%, UAE)
Etilsalat Misr	2011	ICT	322,6	Etilsalat (66%, UAE)
Gamesa Gabal el Zeit Wind Farm	2012	Electricity generation	276	Gamesa (100%, Spain)
Etilsalat Misr	2012	ICT	320	Etilsalat (66%, UAE)
Etilsalat Misr	2013	ICT	335	Etilsalat (66%, UAE)
Etilsalat Misr	2014	ICT	280	Etilsalat (66%, UAE)
Etilsalat Misr	2015	ICT	310	Etilsalat (66%, UAE)
Benban Solar PV Plant	2016	Electricity generation	100	Infinity Energy Holding (52%, Germany)
Access Power and Eren Solar PV Complex	2017	Energy	154,6	Access Power MEA (50%), Eren Holding (50%)
Acciona Benban Rising Sun Energy & Sunrise Energy	2017	Energy	132	Swicorp (13%), KCC Buildcon Private Limited (13%), Acciona (38%), Others (37%) ACWA Power (51%), Chint Group (17%), Al-Tawakol Electrical Group (17%), Hassan
ACWA Benban Solar PV I/II/III	2017	Energy	187,7	Allam Holding (17%)
Al Subh Solar PV Plant	2017	Energy	66	Swicorp (50%), Acciona (50%)
Alcazar Energy Solar Plant	2017	Energy	68,7	Alcazar Capital Limited (100%), Small local investors (1%)
Alfa Solar Benban Solar Plant	2017	Energy	74	Alfanar Energy (100%)
ARC Benban Solar Plant	2017	Energy	74	Desert Technologies (50%), Maccaferri Industrial Group (50%) Desert Technologies (15%), Maccaferri Industrial Group (25%), Albilal Group for General
Arinna Benban Solar Plant	2017	Energy	28,8	Contracts Co (51%), Small international investors (9%)
Aten Solar PV Plant	2017	Energy	68,67	Alcazar Capital Limited (100%), Small local investors (1%)
Delta Solar PV Plant	2017	Energy	66,4	Alcazar Capital Limited (75%), Others (25%)
EDF EN Benban PV plant	2017	Energy	74	EDF Energies Nouvelles SA (50%), Elsewedy Cables (50%)
Elsewedy Benban Solar Plant	2017	Energy	74	EDF Energies Nouvelles SA (50%), Others (50%)
Horus Solar PV Plant	2017	Energy	68,67	Alcazar Capital Limited (100%), Small local investors (1%)
Infinity Solar Portfolio	2017	Energy	115,7	Infinity Energy Holding (50%), Others (50%) Infinity Energy Holding (24%), Vogt Solar (24%), Cedrus Enterprises Holding (2%),
Phoenix Benban Solar Plant	2017	Energy	73,74	Phoenix (51%)
Ra Solar Plant	2017	Energy	33,3	Volitalia (100%)
Ras Ghareb Wind Farm	2017	Energy	400	Toyota Tsusho Corp. (40%), Orascom (20%), SUEZ (40%)
Scatec Solar Portfolio	2017	Energy	450	Scatec (34%), Norfund (34%), Africa 50 (34%)
Shapoorji Energy Benban Solar Plant	2017	Energy	73	Shapoorji Pallonji Group (100%)
Sokhna Port Bunkering Phase III	2017	Transport	504	Amiral Holdings Limited (63%)
Taqa Arabia Benban Solar Plant	2017	Energy	74,1	QALAA holdings (63%) Spectrum Group (9%), Desert Technologies (15%), Al-Tawakol Electrical Group (51%),
Winnery Benban Solar Plant	2017	Energy	29	Maccaferri Industrial Group (25%), Small international investors (1%)

Source: Authors' own table compiled from World Bank Private Participation in Infrastructure (PPI) database.

Note: ICT is an abbreviation for Information and Communication Technology.

Total investments include equity and debt from all sources - private, public, domestic, and foreign. The PPI database does not include a breakdown of investment sources for all projects.