**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Economic Policy and Business Administration**

# Bachelor Thesis

## Foreign Direct Investments in Libya

**Mohammed xxx.**

# CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

# BACHELOR THESIS ASSIGNMENT

Mohamed Ahmed

Business Administration

Thesis title

**Foreign Direct Investment in Libya**

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**Objectives of thesis**

The objective of the thesis is to study an overall effect of FDI's in Libya, it's economy and social aspects. What could be done to attract investments and establishing new partnerships with countries, how could potentially Libya build it's business environment to get better-off in every aspects.

**Methodology**

The main methodological tool that is applied within the work is an MLRM method and ordinary least square method. The analysis that is being used is mainly based on the time series, where certain variables are observed and tested within a certain time period.

**The proposed extent of the thesis**

35- 40 stran

**Keywords**

Foreign investment, Economy, Direct investment, Libya, Oil, Inflation, GDP per Capita.

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**Recommended information sources**

Abobaker Salem (2015): Key success factors impacting foreign direct investment and technology: transfer : A comparative study of Libya and Egypt. ISBN: 978-3659749148

Jacques H. J. Bourgeois (2017): EU Framework for Foreign Direct Investment Control. ISBN: 978-9814583602

Ka Zeng & Joshua Eastin (2011): Greening China: The Benefits of Trade and Foreign Direct Investment. ISBN: 978-0472117680

Salem A. Abdulla (2012): Libya and Foreign Investments: An Empirical Analysis of Libyan Business Environment and Foreign Direct Investment. ISBN: 978-3659271687

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**Declaration**

I declare that I have worked on my bachelor thesis titled "Foreign Direct Investments in Libya" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on _____

Mohammed _____

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I would like to thank my thesis supervisor for his advice and support. I appreciate the time of **Prof. Ing. Mansoor Maitah Ph.D.** spent correcting my work and directing my thoughts back on track. All the way from beginning to the end he inspired me with his broaden horizon regarding not only global economic state of affairs but the knowledge in specifical questions about my motherland Libya, which influenced me to write the topic. I am happy to study from such a great teacher, and qualified specialist as **Prof. Ing. Mansoor Maitah. Ph.D.**

# Foreign Direct Investments in Libya and its impact of GDP.

**Abstract**

The research presents a controversial issue of Foreign Direct Investments (FDI) in Libya. The capital flows from a surplus country towards capital deficit country. Even though, Libya is a surplus country, still it needs foreign direct investment. The bachelor thesis is focused on Foreign Direct Investments in Libya, which is highly concentrates on the petroleum sector. When international economic sanctions were removed in 2003, the Libya has announced new reforms to make its economy integrated with economic policies. These reforms were especially made to promote its oil and non-oil sectors through issuing economic policies in FDI law and regulations. The bachelor thesis is based on statistical data, with an inclusion of oil prices per barrel, inflation rate, barrels produced per day and Inflows of Foreign Direct Investments.

**Keywords:** Foreign investment, Economy, Direct investment, Libya, Oil, Inflation, GDP per Capita

# Přímé zahraniční investice v Libyi a jejich vliv na HDP.

**Abstrakt**

Výzkum představuje kontroverzní problém přímých zahraničních investic (FDI) v Libyi. Kapitál proudí ze země s přebytkem do země s deficitem kapitálu. Přestože je Libye zemí s přebytkem, stále potřebuje přímé zahraniční investice. Bakalářská práce je zaměřena na Přímé zahraniční investice v Libyi, která je vysoce zaměřena na ropný sektor. Když byly v roce 2003 zrušeny mezinárodní hospodářské sankce, Libye oznámila nové reformy, aby se její ekonomika začlenila do hospodářské politiky. Tyto reformy byly speciálně provedeny na podporu ropného a neropného sektoru prostřednictvím vydávání hospodářských politik v zákonech a předpisech o přímých zahraničních investicích. Bakalářská práce je založena na statistických datech se zahrnutím cen ropy za barel, míry inflace, barelů vyrobených za den a přílivu přímých zahraničních investic.

**Klíčová slova:** Zahraniční investice, Ekonomika, Přímé investice, Libye, Ropa, Inflace, HDP na obyvatele

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# 1 Introduction

Foreign direct investments (FDI) are understood as the factor that boosts an economic growth in a host country. It does not only bring the capital into the country, but also demonstrates the advanced technology that is able to improve technological capability of any firms in the host country (UNCTAD, 2019)[1]. However, the technological advantages are not limited to domestic firms' Technological spillover is supposed to be an automatic action within the country, however not usually the case. It all depends on many factors such as, domestic items of the country, environmental features, and the most important factor is the policy of trade between developed and developing countries (Kohpaiboon, 2006)[2].

The most debated topic of international economists was the fact that of technological transfers to developing countries, especially for the Multinational Organizations (MNEs) in the process of developing and applying technology across national borders. At present, technology plays a crucial role which might solve the problem of technological stagnation. However, the FDI is able to solve more common problems of any economy, such as unemployment rate and boost the GDP level, based on a scope of investment. Many researchers claim that some host countries of FDI need to overcome the problems that they face within their economies, such as unemployment, lack of technology and most importantly the right human capital (Ayadi, 2010)[3]. The experience of Algeria, Sudan and Libya demonstrated the importance of FDI and have shown the boost of economy in those developing countries (Hussein, 2009)[4].

This thesis explains the case study of Libya. The economy of Libya partly relies on the returns of oil industry, its production, and sales. Based on the statistical data, the contribution of oil sales is close to 95 percent of export returns, and 60 percent of those are the government's

[1] UNCTADstat. (2019): External financial resources. [online]. Accessed: 12-6-2022. Available at: http://unctadstat.unctad.org/EN/

[2] Kohnpaiboon,F (2006): Foreign Direct Investment and Technology Spillover: A Cross Industry Analysis of Thai Manufacturing.

[3] Ayadi, F. S. (2010): Sectoral analysis of foreign direct investment and economic growth in Nigeria. International Journal of Trade and Global Markets, 3(4), 327–340.

[4] Hussein, S (2009): Impacts of foreign direct investment on economic growth in the Gulf Cooperation (GCC) countries.

salaries, however the income distribution is still skewed (CIA, 2019.)[5] Thus, the Libya has the highest GDP per capita in Africa, due to the fact that Libya's population is relatively small and vice versa happens with the oil reserves that it owns, it is relatively large. However, thanks to its natural reserves, Libya is able to attract FDIs with its crude oil sector which eventually improves the technology development of a state. Thus, put Libya in a competitive environment among oil producers.

Libya is a unique case in terms of foreign direct investments, because it has a big potential of natural reserves and external resources. It has an ideal geographical location because in North Africa and links the African countries with European countries. It also has got a few touristic cities which became a destination for foreign investors. Additionally, it has a large land area with 1,759,540 sq km, and an advantage of a small population. It is considered to be one of the most successful countries which attracted a lot of Foreign Direct Investments for the past 15 years, with the providing incentives, facilities, administrative procedures, creating new jobs, training of local workers and etc. With an announcement of new law and regulations, the economy has discovered its potential (Otman, 2007)[6]. The country still faces the financial challenges because of unbalanced economic growth between sectors.

According to (Hammami, 2009)[7] the challenges are: weak institutional capacity in government, undeveloped economy, vulnerability of economy due to oil prices, shortage skills and undeveloped human capital, poor physical infrastructure. Moreover, the country was put with economic sanctions which was imposed by USA, due to dictator Muammar Gaddafi. Basically, the country is a good subject of investments, however, due to the mentioned lack of abilities, it still needs some time to fully establish it-self as a potential place for investments.

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[5] CIA. (2009). The world fact book, Libya. [online]. Accessed: 12-6-2022. Available at: https://www.cia.gov/library/publications/the-world-factbook/geos/ly.html

[6] Otman, W. A. & Karlberg, E. (2007). The Libyan economy: Economic diversification and international repositioning. Heidelberg, Berlin: Springer.

[7] Shaaeldin, M. E. & Hammami, M. L. S. (2009). The Socialist People's Libyan Arab Jamahiriya: Country engagement note. African Development Bank, Ghana. 1–11.

# 2 Objectives and Methodology

## 2.1 Objective

The main objective of the thesis is to evaluate the impact of Foreign Direct Investments on economic growth of Libya. In order to reach the aim, the author needs to analyze the concept of GDP, what are the main sectors that contribute to the GDP development. Because GDP is consisted of many macro indicators such as: Inflation rate, Unemployment rate, GDP per capita, Import and Export, the author wants to see how exactly the inflow of foreign direct investments impact the economy of the state.

## 2.2 Methodology

The main methodological tool that is applied within this work is an OLS method, Ordinary Least Square method, its analysis is mainly based on the time series, where certain variables are observed and tested within a certain time period. It is important to mention that the author uses an annual data. The OLS method is based on mathematical and statistical procedures that are performed to eliminate errors that might arise within the fixed criteria.

Let's consider the linear regression model which looks in the following manner:

$$Y_t = \beta_1 + \beta_2 X_{2t} + \beta_3 X_{3t} + \cdots + \beta_k X_{kt} + u_t, \quad u_t \sim nid(0, \sigma^2), \quad t = 1,2,\dots$$

The author aims to generate efficient estimators of the unknown parameters $B_1$ to $B_k$, where each parameter can be estimated given a set of observations on the dependent and independent variables. Where estimators are denoted in the following manner:

$\hat{\beta}_1 \rightarrow$ estimator of $\beta_1 \rightarrow$ a set of observations on Y and $x_1 \dots x_k \rightarrow \hat{\beta}_1$

$\hat{\beta}_2 \rightarrow$ estimator of $\beta_2 \rightarrow$ a set of observations on Y and $x_1 \dots x_k \rightarrow \hat{\beta}_2$

...

$\hat{\beta}_k \rightarrow$ estimator of $\beta_k \rightarrow$ a set of observations on Y and $x_1 \dots x_k \rightarrow \hat{\beta}_k$

The expected value of the dependent variable is given by the following expression:

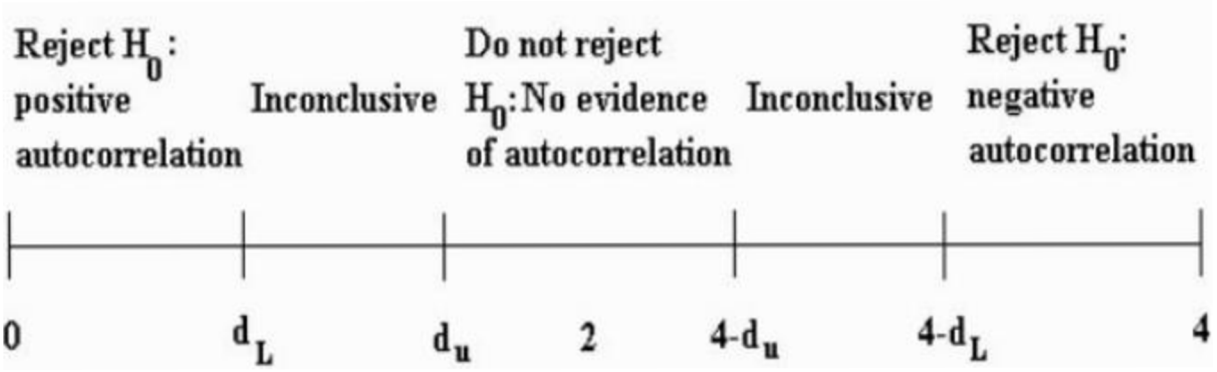
$$E(Y_t) = \beta_1 + \beta_2 X_{2t} + \beta_3 X_{3t} + \cdots + \beta_k X_{kt}$$

However, the author plans to test the model with the following assumptions:

- Model verification
- Autocorrelation
- Multicollinearity
- Normality
- Heteroskedasticity

**Model verification** is the process of confirming the output of a statistical model are acceptable with respect to the real data – generating process. Validation based on the first type usually involves analysis which confirms whether the residuals seem to be random, which is called goodness of fit.

**Autocorrelation** must deal with the structure of above-mentioned residuals. The autocorrelation test is done through Durbin – Watson test.




Source: (Teng, 2012)[8]

[8] Teng, Y (2012): How to choose significance level for Durbin-Watson Statistics? [online]. Accessed: 12-6-2022. Available at: https://www.researchgate.net/post/How-to-choose-significance-level-for-Durbin-Watson-Statistics

The DW test detects an autocorrelation of the 1st order. The statistical test has got an average value of E (d) = 2, and it is located in the interval **<0;4>** where the table value of $\mathbf{d}_D$ (lower limit d) and H (upper limit *d*) based on the degree of freedom model; we compare the value *d* with the following intervals on the basis of the position of *d* we evaluate the autocorrelation.

The interval <0;d*D*> indicates positive autocorrelation.

The interval <$d_D$;$d_H$> insignificant autocorrelation.

The interval <$d_H$;2> detection of positive autocorrelation.

The interval <2;4-$d_H$> detection of negative autocorrelation.

The interval <4- $d_H$;4-$d_D$> no decision on autocorrelation.

The interval <4-$d_D$;4> detection of negative autocorrelation.

**Multicollinearity** occurs when explanatory variables, either a pair or more, are near perfect linear combinations with each other which is indicated by ( 0,9 % is an indicator that variables have stronger correlation).

**Normality** – is a detection of residuals and that they are normally distributed. Normality of residuals is necessary only for valid hypothesis testing. The main assumption is that residuals supposed to be normally distributed within the linear regression model for a certain period of time. Which is explained by the following: $H_1$: Not normally distributed. Where the Jarque-Bera test is used for identification.

**Heteroskedasticity** – usually, there are different test used to identify heteroskedasticity. The author considers using White's test, where: $H_0$: Homoskedasticity; $H_1$: Heteroskedasticity. For the most part, in statistics, the model should have homoscedastic roots, however it is not usually the case.

# 3 Theoretical Part

The chapter will cover a theoretical knowledge of Foreign Direct Investments, based on the secondary sources. The author selected a few study guides and has taken the relevant information that could be used in the analysis of the practical part. The chapter also includes the descriptions of investments as there are many types of investments.

(Romanov, 1995)[9] claimed that an application of Foreign Direct Investments is an objective necessity and usually considers the country's economic ability to reach its potential in the division of labor and overflow of capital and business. FDI's make it possible to obtain such results by owning productive assets in a host country. The FDI boosts an economic growth of a host country, by creating jobs, which eventually reduces an unemployment, it also increases a physical capital in a host country and affects the BOP (balance of payments) because of the inflow of foreign capital. Foreign Direct Advanced technology and modern management skills are another contribution which foreign direct investment possesses on a host country, which increases the production side of a country by developing skilled labor force in different scopes of activities. It usually happens due to exchange of knowledge between the host employees and experienced workers of the foreign company. An export of a host country increases with an existence of FDI which further boosts an economy of a developing country. Thus, it increases a productivity and production of a host country and hance increasing a national income which eventually increases an average per capita.

Even though, for the most part, the Foreign Direct Investments is always accepted as an advantageous thing, is also possesses the risks to both, investing party and host country. Sometimes, FDI's might deplete the wealth of the developing countries due to its expansion, the technology that is brought by FDI party, might not be in line with the developing country's abilities, which are predominantly unemployed. The extensive bringing of the foreign capital might exacerbate the problem of unemployment. Another disadvantage for the host country is

[9] Romanov. N. (1995): Effect of a global alteration of running technique on kinematics and economy. ISBN: 0972-5537-66

that FDI's might develop a monopoly of domestic market in host countries, which might create a dependency of developing countries on developed countries (Solow, 1956)[10].

## 3.1 Forms of FDI

There are different varieties of Foreign Direct Investments which depends on the nature of ownership of productive assets in host countries. However, FDI could be classified in three different types where each of them is focused on the following criteria, only based on directions such as: market – seeking, resource – seeking and efficiency – seeking FDI's (Moosa, 2002)[11]

### 3.1.1 Market – seeking FDI

Market seeking is defined as an investment which aims at reaching a high product quality of services and products, to sell within a domestic country or a host country (Dunning, 2000)[12]. The transportation costs within the marketing seeking are usually cut and tries to avoid any tariffs involved.

(Yokoto, 2009)[13] did a study for 44 countries and examined the time series of 1983 to 1999. They found that, those countries experienced the cost reduction in transportation, taxes and tariffs in those host countries. Usually, this type of investment is noticeable with the large market size, as an exemplary country was China, which demonstrated the effect.

Market seeking FDIs does not fully rely on the export, rather otherwise, it fully relies of the domestic production (Brouthers, 2008)[14]. However, based on the research of East countries, market – seeking FDI's are dependent on a few factors, in a host country, which are, size of market, transportation costs and tariffs.

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[10] Solow. R (1956): A Contribution to the Theory of Economic Growth. ISBN: 0393- 9774-55

[11] Moosa, I. A. (2002). Foreign direct investment: Theory, evidence and practice. Great Britain, New York: Palgrave.

[12] Dunning, J. H. (2000). The eclectic paradigm as an envelope for economic and business theories of MNE activity. International Business Review, 9, 163–190

[13] Yokota, K. & Tomohara, A. (2009). A decomposition of factors influencing horizontal and vertical FDI: A separate analysis. Eastern Economic Journal, 35, 462–478.

[14] Brouthers, L. E., Gao, Y. & McNicol, J. P. (2008). Corruption and market attractiveness influences on different types of FDI. Strategic Management Journal, 29, 673–680.

### 3.1.2 Resource – seeking FDI

Resource seeking FDI is aimed to shifts its production facilities to host countries, which have cheaper costs of production in terms of labor costs and extraction of natural resources, so to reduce the cost of production (Dunning, 2000). This type of investment is a key factor in development and developing countries, especially those who are dependent on natural resources (Nunnenkamp, 2002)[15].

Another study was done (Lee, 2010)[16] in Kazakhstan for the period of 1997 and 2006 and argued that resource – seeking increases the economic growth of developing countries, however the effect is not that significant, rather it has a nominal effect. However, some argues that these types of investments have got a short – term effect on economic growth, whereas market – seeking presence of FDIs have a long-term benefit for economic growth, especially for transitional economy.

The resource – seeking FDIs could be classified by two types: vertical backwards and vertical forwards of FDI, where vertical backwards entail the investments in manufacturing abroad, which delivers the inputs to local firms, whereas forward vertical FDI entails investments in the manufacturing sector of a host country and eventually sells its products abroad. (Kohpaiboon, 2006). A classic example of backward vertical is an acquisition of a business which operates in a supply chain, which links the core business to an end user.

### 3.1.3 Efficiency – seeking FDI

Usually, efficiency seeking of FDI considers the fact of technological availability, trying to improve economic activity by promoting already existing portfolio, foreign or domestic assets and its labor group and their specializations. It also strengths the economic growth because of

[15] Nunnenkamp, P. (2002b). Foreign direct investment in developing countries: What economists (don't) know and what policymakers should (not) do! India: CUTS Centre for International Trade, Economics & Environment.
[16] Lee, J.-W., Baimukhamedova, G. & Akhmetova, S. (2010). Foreign direct investment exchange rate, and their roles in economic growth of developing countries: Empirical evidence from Kazakhstan. Journal of International Business Research, 9, 75–90.

the technology and capital flow and from its wages of developed countries to low wage developing countries (Eckel, 2003)[17].

A spillover of technology is taken as a very important factor of strengthening this type of investment which eventually increases the competition which boosts the costs between locations, improvement of facilities, skilled labor force, and more importantly it reduces the transportation costs. The reduction of costs because of transportation is considered between the branches of a main (parent) company and in this connection improves the information technology which positively impacts the local activities from the efficient point of view, for the host country.

### 3.1.4 Strategic Assets seeking FDI

Strategic FDIs are connected with the availability of skilled human capital, which exist only in those countries who are highly advantaged with educated local staff. This type of investment is also used to determine the fact of how well an integration on a global scale works. Wadhwa and Reddy (2002)[18] stated that "strategic assets seeking FDI aims at advancing a company's global or regional strategy into foreign networks by creating assets like technology, organizational abilities and markets" (p. 220). However, a controversial statement was announced based on the evidence of UNCTAD, by Gugler and Bertram (2008)[19]:

*"UNCTAD global survey indicates that strategic asset-seeking FDI is a relatively modest motive for developing-country MNEs (14 per cent of responses compared to 51 per cent for market seeking FDI), the picture is quite different for Chinese MNEs. The latter regard strategic asset seeking as the second most important motivation after market-seeking."* (p. 18).

Strategic asset-seeking FDI is aimed at identifying and acquiring advanced technology, brand within an international market. As an example, German and Japanese companies have bought

[17] Eckel, C. (2003). Fragmentation, efficiency-seeking FDI, and employment. Review of International Economics, 11, 317–331.

[18] Wadhwa, K. & Reddy, S. (2011). Foreign direct investment into developing Asian countries: The role of market seeking, resource seeking and efficiency seeking factors. International Journal of Business and Management, 6(11), 219–226.

[19] Gugler, P. & Bertram, B. (2008). Emerging multinationals: Outward foreign direct investment from emerging and developing economies. Copenhagen, Denmark: Copenhagen Business School.

US electronics companies because of the technological advancement. Chinese government has embarked a large scale of Chinese strategies for asset seeking. In order to keep its quality of brands and other activity secret Gugler and Bertram (2008).

### 3.1.5 Social impact of FDI

Foreign direct investments have certainly an impactful motive for social aspects of human live in a host country, such as: human capital, financial development, political institutions, level of wages and workforce, household size and educational level and extra (OECD, 2011)[20].

Kim, Lin & Suena (2012) made a study and have discovered the effect of social FDI on trade and DI for panel data for 85 countries. It turned out that social capabilities, capital development, institutions of political and financial matters were the strongest motivation for FDI and overall trade that improve FDI. Yet, they discovered, that social factors of FDI is a vital factor for developing countries, especially when the level of corruption is low and government is focused on democracy, quality of political rights and civil liberties exists.

Another study was done in India, where social factors such as: urbanization, size of household, literacy level are most likely to increase the level of FDI into the country, when these factors are on a high level (Sathe, 2012)[21].

[20] OECD. (2011). Competitiveness and private sector development: Kazakhstan 2010—Sector competitiveness strategy. Paris, France: OECD Publishing.

[21] Sathe, S. & Handley-Schachler, M. (2006). Social and cultural factors in FDI flows: Evidence from the Indian states. World Review of Entrepreneurship, Management nd Sust. Development, 2, 323–334.

## 3.2 Determinants of FDI

There are determinants which are very important to consider for the host country, foreign investors, and policy makers. Identifying FDI determinants are very important to consider, as those indicators and its specification might influence the processes of FDI into the host country. There is a list of variables which are considered, before investors decide to move on with the processes, such as: market size and growth, political stability, corruption level, labor costs, economic freedom, openness, human capital availability of natural resources, taxes and business climate (Asiedu, 2006)[22].

### 3.2.1 Size of Market and its Growth

The interest of FDI into the large markets is certainly higher to host countries and hance leading to economic development. A majority of empirical evidence have found that, as one of the largest determinants of any foreign direct investments, plays a market size, and the bigger it is, the more positive it has on FDI. From the research of (Leitao, 2010[23], Quazi, 2007[24], Vijayakumar et al., 2010[25]) on Russia, Brazil, India and China for the period of 1975 to 2007, the large market size, labor costs and structured infrastructure play a significant role in attracting FDI flows to those countries.

Another study was done in Greece , by (Leitao, 2010) where he examined the following factors have determined the flow of FDIs from the period of 1998 to 2007. He considered the size of the market as well as labor market and trade openness and concluded that those are the most important factors that made a difference. Quazi (2007) stated that the booming point of FDI flows in China is because of the size of the Chinese market. He argued that the large market size could be measured through GDP growth, size of the population and market growth.

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[22] Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions, and political instability. World Economy, 29, 63–77.

[23] Leitao, N. C. (2010). Localization factors and inward foreign direct investment in Greece. Theoretical and Applied Economics, XVII, 17–26.

[24] Quazi, R. & A&M University. (2007). Investment climate and foreign direct investment: A study of selected countries in Latin America. Global Journal of Business Research, 1, 1–12

[25] Vijayakumar, N., Sridharan, P. & Rao, K. C. S. (2010). Determinants of FDI in BRICS countries: A panel analysis. International Journal of Business Science and Applied Management, 5, 1–13.

### 3.2.2 Political Stability

Political stability is another determinant factor which was monitored in the Middle East and North Africa (MENA) region from 2002 to 2007, Sammi & Ariani (2010)[26] proved evidence of political stability and its positive impact on attraction of FDI, however there were other factors considered alongside. The rule of law and control of corruption have a strong impact on increasing FDI inflows to the region. According to Sammi (2010) political instability gives a bad impression of a country for the foreign investors and certainly causes fears for FDI's about the environment, which eventually decreases an interest for FDIs. He also stated that some events some events inside the country can evaluate the political stability such as "Military coups, high profile, political assassinations, strikes, shutdowns and extra. As an example, Quazi (2007) stated that political stability was monitored in Indonesia, due to its deterioration and hindered FDI flows from 1995 to 2000. It is quite clear that, those events can severely change the mid of foreign direct investors to the host country.

### 3.2.3 Corruption

Recent studies have examined the correlation of corruption index and FDI, there was clear evidence that corruption level creates a negative impact on development of FDI in host country and hance, decreases the flow of FDI. Empirical studies have shown, when level of corruption is high of a host country, the interest of FDI decreases and economic development become stagnant. (Abed & Davoodi, 2000)[27].

Another examined case was done by (Fredriksson & Millimet, 2003)[28] include an analysis of four different sectors, dated from 1977 – 1987 in USA. They argued that corruption negatively impacts the FDI flows because of two reasons, theft of funds for public spending and manipulation with the foreign capital which was invested in the host country. Moreover, there are also empirical studies which have demonstrated that corruption could be measured through

[26] Samimi, A. J. & Ariani, F. (2010). Governance and FDI in MENA region. Australian Journal of Basic & Applied Sciences, 4, 4880–4882.

[27] Abed, G. T. & Davoodi, H. R. (2000). Corruption, structural reforms, and economic performance in the transition economic. IMF Working Paper No. 132, 2–47.

[28] Fredriksson, P. G. & Millimet, D. L. (2003). Bureaucratic corruption, environmental policy and inbound US FDI: Theory and evidence. Journal of Public Economics, 87, 1407.

institutional and political corruption. Institutional corruption involves the corruption in the legal system where, rules can be easily changed in a favour of a host country, whereas political corruption is formed by excessive briberies, pay-outs, and nepotism.

### 3.2.3 Governance

Golberman & Shapiro (2017)[29] countries attract more foreign direct investments if they have a good governance. They emphasized the study on 45 developing countries which were selected such as: Africa, Latin America and Asia. The rule of law, full transparency where corruption is in control, freedom of expression and political stability are factors that demonstrated a good governance. If all of them are in line with the requirement of FDI, there is a high potential of retention rate of FDI for the future. However, (Li, 2005)[30] argued that, despite the fact that China lacks the rule of law, it still attracts most of the investors due to its vast market opportunities.

Another study was done by (Subasat, 2012)[31] analyzed the relationship between the governance and FDI in transition economies and have detected that variable which were in line to governance had a negative impact with the level of FDI.

### 3.2.4 Labor Cost

Labor cost is the most debated issue in the scope of FDI, and some studies mention that it positively effects the FDI flows, especially when a cost of labor is low, the FDI is a robust variable to such countries. It is one of the requirements of foreign direct investors when entering a host country. When conditions are controversial, meaning the cost of labor is high, there is a reduction of interest of FDI flows. The higher the cost of labor leading to an increase of labor

[29] Globerman, S., & Shapiro, D. (2017): Governance infrastructure and US foreign direct investment. Journal of International Business Studies, 34(1), 19–39.
[30] Li, S. (2005). Why a poor governance environment does not deter foreign direct investment: The case of China and its implications for investment protection. Journal of Business Horizons, 48, 297—302.
[31] Subasat, T., 2012. Governance and foreign direct investment: A panel gravity model approach. International Review of Applied Economics, 26 (3), 303 – 328.

production which has an impact on a competition position of FDI within a certain industry. The labor force can be easily measured through wages of workers (Mateev, 2009)[32].

Another study conducted by Narula & Bellak (2012)[33] in relation of labor costs and FDI flow into Central Europe and partly Eastern European countries, for the time period of 1995 to 2003, where the firm's decision about either to move on with an investment plan or not, was based on that criterion. Additionally, they found out that the higher labor costs have tendencies to discourage the FDI. However, in contrast, (Resmini, 2013)[34] argued that this criterion is not that important as wages compared with high productivity costs and exchange rate and its fluctuation.

### 3.2.5 Infrastructure

FDIs also consider the infrastructure level in a host country, due to essentiality of the basic physical systems such as: transport supplies, roads and utilities, water, telecommunication, and energy supply. Those services are parts of production which enables productive work. When a high quality of infrastructure is present in a country, the FDI are more open to consider the investments of any type, thus providing better production to the host country (Resmini, 2013).

(Resmini, 2013) stated that transaction cost is lowered due to a good infrastructure which eventually effects the comparative and absolute advantage (p. 123).

Another study was done in Pakistan by (Rehmen, 2011)[35] where he proved that infrastructure had a positive impact on increasing the FDI flows in both, short term and long terms period, 1975 – 2008. The empirical study of Vietnam during 1986 to 2008, where a big flow of FDI

[32] Mateev, M. (2009). Determinants of foreign direct investment in Central and Southeastern Europe: New empirical tests, Oxford Journal, 8, 133–149.
[33] Narula, R., & Bellak, C. (2009). EU enlargement and consequences for FDI assisted industrial development. Transnational Corporations, Vol. 18, No. 2, 69-70.
[34] Resmini, L. (2013). The determinants of foreign direct investment in the CEECs: New evidence from sectoral patterns. Economics of Transition, 8, 665–689.
[35] Rehman, C. A., Ilyas, M., Alam, H. M. & Akram, M. (2011). The impact of infrastructure on foreign direct investment: The case of Pakistan. International Journal of Business & Management, 6, 268–276.

were observed, as a result of governmental decisions to improve the infrastructure, such as: office buildings, industrial zones, parks, roads and ports. (Tran, 2009)[36].

However, (Pradhan, 2008)[37] concluded that infrastructure has a negative impact on FDI inflows in India, due to undeveloped infrastructure and shortage of investments in the economy.

### 3.2.6 Trade Openness

Foreign direct investments prefer to invest in such countries who have opened trade, which is also a key factor which positively impacts the FDI flows into a host country, subsequently improving the economic development of those countries (Quazi & A&M University, 2007)[38].

(Pradhan, 2008) has also studied the paradigm of trade openness and foreign direct investments where he proved that trade openness has a stronger effect after the post-globalization era than the pre-globalization era in India. His suggestion to the government was to develop more open policies in order to attract more FDI inflows to the country.

Another study was done in four different European countries by (Torrisi, C. R., Delaunay, C. J. & Lubieniecka, M., 2008)[39]: Poland, Czech Republic, Hungary and Slovak Republic, where a panel data was used from 1989 to 2006, economy of these states was in transition, and it turned out to have a positive impact on economic growth. They also measured the rate of import and export as a percentage GDP in a host country.

### 3.2.7 Human Capital

This particular indicator is referred to the population of a state, where people have gained a certain amount of knowledge to contribute to the productivity. The contribution could be different, including the development of training, health and investment, which eventually indicated the development of human capital overall (Ariani, 2010).

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[36] Tran, T. Q. (2009). Sudden surge in FDI and infrastructure bottlenecks. ASEAN Economic, Bulletin, 26, 58–76.
[37] Pradhan, R. P. (2010). Trade openness and foreign direct investment in India: The globalization experience. IUP Journal of Applied Finance, 16, 26–43.
[38] Quazi, R. & A&M University. (2007). Investment climate and foreign direct investment: A study of selected countries in Latin America. Global Journal of Business Research, 1, 1–12.
[39] Torrisi, C. R., Delaunay, C. J. & Lubieniecka, M. (2008). FDI in Central Europe: Determinants and policy implications. Journal of International Finance & Economics, 8, 136–147.

There are numerous studies which demonstrated a significant interaction between the human capital and foreign direct investment, in developing countries. (Yokoto, 2009) stated that human capital is one of the most important determinants of FDI in China. He studied the sample of 77 firms in China, where he applied two different proxies, general and specific. He found that human capital has both indirect and direct effect on FDI, which has been exposed through research and development department of companies. Moreover, developing countries have an advantage in a skilled labor force and the cost of the labor force is much cheaper, which eventually reduces the costs of production and explains why foreign investors move to those countries (UNCTAD, 2019).

### 3.2.8 Reserves of Natural Resources

Natural resources is also a key determinant for FDI, especially for countries who are rich with oil and gas. According to (Hailu, Z. A., 2010)[40]. His study period was from 1980 to 2007 in 45 countries, where MLRM was applied to identify the dependency of resources, trade openness, labour quality is the most important FDI determinants and hance positively impacts on the FDI inflow to those countries.

Another study was done by (Deichmann, J. I., Eshghi, A., Haughton, D. M., Sayek, S. & Teebagy, N. C., 2003)[41] for 25 Eurasian Transition States for the period of 1989 to 1998, where they concluded the importance of natural resource and its positive impact of FDI, as a result of oil and gas rich countries.

### 3.2.9 Tax system

The taxation system has also a massive impact of the FDI inflows. Tax policies and incentives are significant factors for investors to consider. The factors involve, tax holidays, exemptions from import duties, consumption taxes on natural resources, are most commonly known tax policies on a global scale. (Zee, H. H., Stotsky, J. G. & Ley, E., 2002)[42]. Some Empirical studies

[40] Hailu, Z. A. (2010). Demand side factors affecting the inflow of foreign direct investment to African countries: Does capital market matter? International Journal of Business & Management, 5, 104–116.
[41] Deichmann, J. I., Eshghi, A., Haughton, D. M., Sayek, S. & Teebagy, N. C. (2003). Foreign direct investment in the Eurasian transition states. Eastern European Economics, 41, 5–30.
[42] Zee, H. H., Stotsky, J. G. & Ley, E. (2002). Tax incentives for business investment: A primer for policy makers in developing countries. World Development, 30, 1497– 1516.

have demonstrated that a tax reduction is a boosting factor for improving FDI to a host country and hance generating a massive increase of FDI flows because of "Tax rules influence investment decisions" (Tung, S. & Cho, S., 2000)[43].

Tax incentives have played a big role in the investment decisions, based on the (He, X. & Guisinger, S. E., 1993)[44] who studied a sample of 17 developed countries during 1989 – 1997. He found that tax policies have a strong effect on the location of FDI. However, they also claim that higher taxes could potentially increase the flow of investors, however, it is very important to set-up the suitable and favorable conditions, from the infrastructure point of view, where investors might actually tolerate the increase if the quality is corresponsive.

### 3.2.10 Business climate

The business climate is understood as an environment where favorable conditions should be present for economic development. Those conditions are taken as fiscal policy, good infrastructure, and skilled labor force (Kolko, J. D., Neumark, D. & Lefebvre-Hoang, I., 2007)[45]. There are economists who disagree with the statement of "Climate investment boosting FDI to host countries", (Kimino, S., Saal, D. S. & Driffield, N., 2007)[46], they focused on investment climate as well as a suitable environment, and concluded a positive and direct effect on FDI, especially in host countries.

However, natural resources also play an important role in improving the investment climate which attract the resource – seeking FDI that affects economic growth.

[43] Tung, S. & Cho, S. (2000). The impact of tax incentives on foreign direct investment in China. Journal of International Accounting, Auditing and Taxation, 9, 105–135.
[44] He, X. & Guisinger, S. E. (1993). Taxation of US foreign direct investment abroad: Effective tax rates and tax policy competition in developed and developing countries. Journal of International Accounting, Auditing and Taxation, 2, 215–229.
[45] Kolko, J. D., Neumark, D. & Lefebvre-Hoang, I. (2007). Business location decisions and employment dynamics in California. San Francisco, CA: Public Policy Institute of California Publications.
[46] Kimino, S., Saal, D. S. & Driffield, N. (2007). Macro determinants of FDI inflows to Japan: An analysis of source country characteristics. The World Economy, 30, 446–469.

(Penev, 2007)[47] explains that investment climate consists of three main variables: political, financial and economic risk, whereas: government instability, bureaucratic quality, corruption.

## 3.3 Background of Libya

Libya is located in North Africa. Its geographical location gives a commercial opportunity, linking Africa and Europe. It also overlooks the Mediterranean Sea, and its beaches lengths are nearly 2000 kilometers. Its neighboring countries are Egypt and Sudan, on the East and Tunisia and Algeria on the West, South's neighbors are Chad and Niger. It is the fourth largest country in Africa, in terms of area, its estimations are 1,759.540 square kilometers. (Wallace, J. & Wilkinson, B. , 2015)[48].

Libya's population is small comparing its massive land territory. The population is estimated to be 6,87 million people, by 2021. Ninety per cent of this population reside in coastal areas and more that 80 percent, live in urban areas or close to largest cities of Tripoli, which is the capital and Benghazi, which is the second largest city. According to the World Bank Indicator, the annual increase in population is around 1 – 1,1 % (The World Bank, 2020)[49]. The religion is prevailed by Muslim (97 percent) of the population, and three percent belong to other religions, many of whom are foreign workers. The language which is spoken – Arabic. However, some people can also speak Italian and English, especially in urban areas (GPC , 2022)[50].

### 3.3.1 Formation of Libya's Economy

After the World War II, the economy of Libya was fully dependent on agricultural sector and trading, until 1960s, when oil and gas has been explored. Because of it, the Libya's economy has discovered huge opportunities with its natural reserves. The Libyan economy begun to rely on oil and gas sectors to the point where the sector became the main source of income.

[47] Penev, S. (2007). Investment climate and foreign direct investment trends in the South Caucasus and Central Asia. South East European Journal of Economics & Business, 2, 1. 31–40.
[48] Wallace, J. & Wilkinson, B. (2015). Doing business with Libya. Great Britain and the US Kogan Page Limited, 1–259.
[49] The World Bank. (2020). World development indicators. Retrieved from: https://data.worldbank.org/indicator/SP.POP.GROW
[50] GPC. (2022). Abstract on the Great Jamahiriya. Retrieved: http://www.ect.gov.ly/index.php?option=com_content&view=article&id=34&Itemi

Additionally, it created numerous projects of commercial matter for import and distribution of commodities. However, those regulations have caused problems from production side, as the low quality and low efficiency of local productivity. The local market has experienced tons issues in this matter. However, the government has created set of rules and regulations for Libyan economy in order to enable a better transition of economic openness, liberalization of trade and involvement of services of a private sector (Otman, W. A. & Karlberg, E., 2007)[51].

Those main idea of those regulations (reforms) was to advance the economy from the technological side of, job creation of Libyan's workers, optimizing the exploitation of the country's potential physical and natural resources, and diversify all economic sectors inside the country. Additionally, the expansion of private sector was also the main goal of the economic reforms, together with a creation of an equal competition by removing the cores of monopoly. With an establishing of Free Trade Zones (FTZs), the Libyan government has diversified the income sources of foreign exchange with the promotion of export-oriented production and trade. Further, the government has created appropriate economic conditions to the production sector by providing production facilities and has improved the quality of appropriate competition which are in line with the world standards. After elimination of market distortions, the Libyan economy has diversified its economy, export in general and improved the balance of payments (GPCETI, 2010)[52].

Libya's economic position has developed as a result of joining the WTO, in July 2004. It was expected that the membership of WTO will lead Libya to an economic development and global economy through its strategic positioning.

The economic consistency of Libya is understood as the following, it constantly is seeking to achieve a sustainable economic development. The Libya's economy is classified as a developing economy. However, for the most part, its economy is highly depends on natural resources and external financial resources. The natural resources can be classified into two

[51] Otman, W. A. & Karlberg, E. (2007). The Libyan economy: Economic diversification and international repositioning. Heidelberg, Berlin: Springer.

[52] GPCETI. (2010). Economic Overview. Tripoli, Libya. [online]. Accessed: 22-06-2022. Available at:http://www.ect.gov.ly/index.php?option=com_content&view=article&id=34&Itemi d=44

different types, non-hydrocarbon mining resources and hydrocarbon mining sources. Where hydrocarbon mining consists of (oil and gas) and non-hydrocarbon mining (iron, limestone and extra). However, Libya's external financial resources imply the sources of income in a form of dividends, which is due to Foreign Direct Investments Outward.

### 3.3.2 Natural Resources

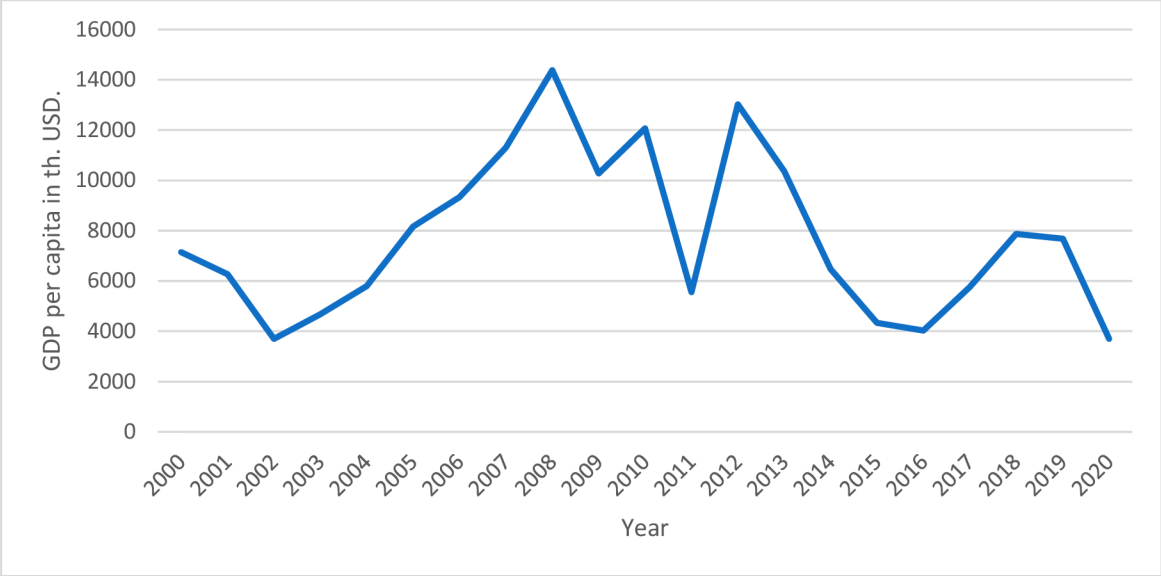
As mentioned above, Libya has an oil economy that provides a natural wealth due to extraction, refining and export of oil for already four decades. The Libya became an oil producing country and received a membership of the Organization of the Petroleum Exporting Country (OPEC) in 1962. The members of OPEC involve 14 different countries, Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Indonesia, Libya, the UAE, Algeria, Nigeria, Ecuador, Gabon, Angola and Kazakhstan.

However, the Libya as a state, had to go over two different stages of development, the pre-oil and post-oil periods. The pre-oil stage involved dependency on agricultural sector, where this sector supported trade within a country and employed over 70 % of Libyan labor force and increased its GDP by 30 percent (Metz, H.C, 1987)[53].

However, the agricultural sector was not an optimal option to keep building its economy for several reasons, where Sahara was the reason, as it covers most of the south of Libya's land, and due to its poor quality of soil and lack of rainfall, the environmental conditions make agricultural sector hard to develop. However, the post oil stage that started in 1960's, begun to be dominant in Libyan economy and still is to its days. Over 95 % of Libyan economy is dependent on oil and gas sector and because of its export earnings whereas, over 60 % of salaries are distributed among the governmental salaries. Because of the oil and gas sector, Libya has got one of the highest GDP per capita in Africa, despite its small population. However, little of that portion goes to the lower society, See Graph – 1.

[53] Metz, H. C. (1987). Libya: A country study. Washington, DC: GPO for the Library of Congress.

**Graph 1: GDP per Capita**




Source: Own, based on macrotrends.net (2022).

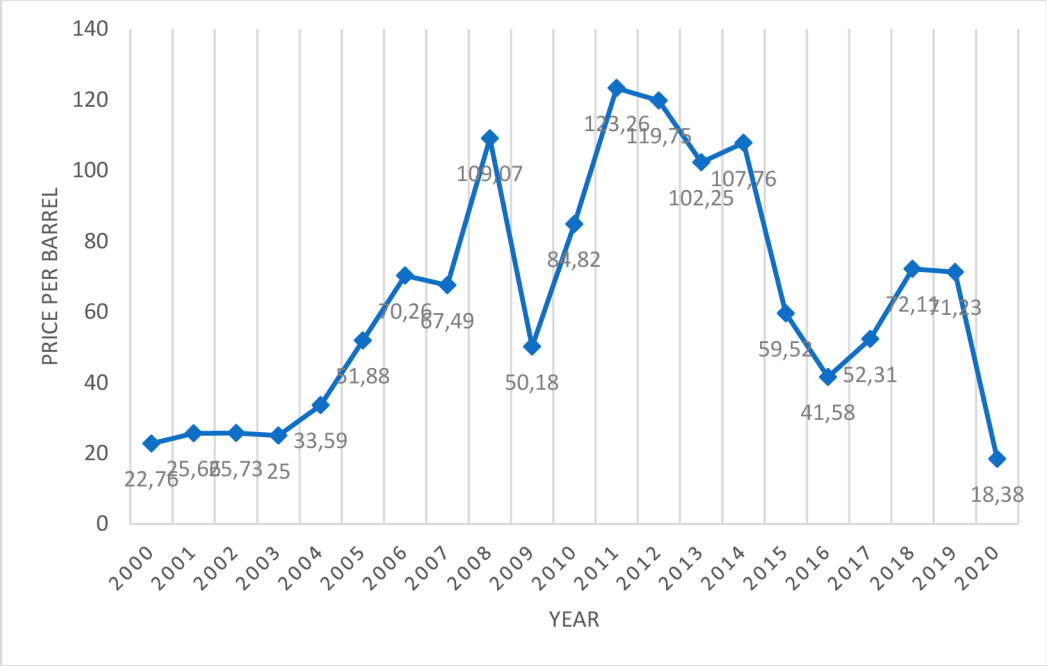
Libya's GDP is directly affected by world oil prices. (Wallace, J. & Wilkinson, B. , 2015) consider that even non-oil sector in Libya is also influences by constant change in oil prices and revenues as well are highly fluctuated from year to year. The economy of Libya is related to the oil prices and hance the economic growth.

The Figure 1 and 2, indicate the correlation of GDP per capita and Price of oil per barrel, based on the annual data. There were sanctions imposed to Libya's government, however, the economic growth was still reachable due to high oil prices. Real GDP of Libya has risen by 7,5 % in 2004-2007, which was stimulated by 10 % of growth in non-oil sectors. However, the collapse of oil prices and global crisis in 2008 has certainly affected the economic growth. Its sharp drop on oil prices in 2009 has also led to a decline in total public finance surplus for about 10 % and a current account balance for 16,8 % from GDP. Even though , investments of Libya are also allocated to other area, besides oil sector, the natural resources are still the main factor of GDP development. Diversification of economy remained the most problematic area for a

sustainable development (Mohamed, A. M. A., Al-Habaibeh, A. and Abdo, H., 2013)[54]. Moreover, they claim that Libya economy is unsteady. In 2012, the decline in oil export from 60 billion to 8,4 billion in 2015, has impacted the government income, which impacted the government spending in educational sectors and health care system. Due to that fact, an expected inflation, cost of power supply and shortage of food became inevitable. In 2016, the suspension of some subsidies, mainly on food, contributed to a sharp increase in prices particularly in regions and the capital city (Programme, U.N.D., 2019)[55].

In 2017, the real per capita GDP has increased by 1,7 % and was prognosed to increase up to 2,3 % and 2,8 % in 2019. The GDP has increased by 55,1 % in 2017, after the previous decline in 2016, and in 2017, in has reached its peak due to increase of oil prices, See Graph – 2.

**Graph 2: Oil prices per Barrel**



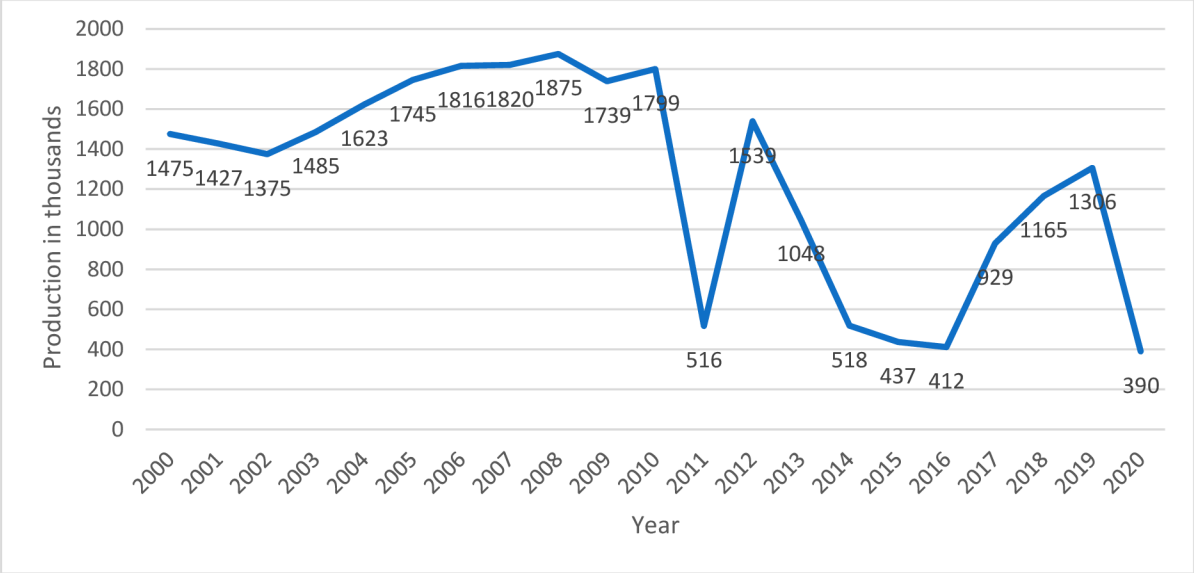

Source: Own, based on macrotrends.net (2022).

[54] Mohamed, A. M. A., Al-Habaibeh, A. and Abdo, H. (2013): An investigation into the current utilization and prospective of renewable energy resources and technologies in Libya. Renewable Energy, p-50.

[55] Programme, U. N. D. (2019) UNDP in Libya, sustainable development goals. [online]. Accessed: 26-6-2022, Available at: https://www.undp.org/content/libya/en/home/about-us.

Based on the agreement of OPEC in 2017, where it entailed a cut of 32,5 million barrels a day, because of that agreement the oil prices increased slightly and fluctuated between 52 $ and 60 $ a day from August to November 2017. Exempt of this agreement, the production of oil in Libya have ramped up towards the end of 2016 throughout 2017, which increase the growth in real GDP from 2017 and 2018. The economic conditions remained uncertain and still dependent on oil prices and its fluctuation.

**Graph 3: Production of oil (Thousand barrels per day)**




Source: Own, based on [macrotrends.net (2022).]

Instability of oil production in Libya has led it due to several events. In the middle of 2011 and 2013 were times, where the economic development had a quick recovery of oil output which missed because of war. The event of 2011 had impacted a little damage to energy production and economic growth back to more than it was expected only within 6 months. In 2013, September to 2016, a political break was noticeable in many ways. The port of "Sirte Basin" which was shut down until September 2016. Libya's economy struggled because of it and tried to build a post-revolutionary landscape (Etelawi, A. M., Blatner, K. A. and Mccluskey, J.,

2017)[56]. (Wallace, J. & Wilkinson, B. , 2015) stated that increasing oil revenue may also influence the non-oil trade of payment. They also claimed that foreign direct investment is the right way to develop the Libyan economy. However, the problem of Libya is that it still is a developing country which is not using its energy ineffectively. It lacks the alternative energy sources compared to developed countries.

Libya is directly affected by the world oil prices (Metz, H.C, 1987). And if looking at three graphs above, Graph – 1,2,3. The factors are clearly correlating with each other, such as GDP per capita, oil prices and production of barrels in Libya (in thousands per day). The continuous growth in energy demand is the key factor that are being faced by energy policymakers in Libya. Libya is similar to other countries, which looks for opportunities to boost its economy, increase and maintain its sources of income, encouraging investments and developing new opportunities. Environmental issues and oil reserves became topics which were announced by the government (Wallace, J. & Wilkinson, B. , 2015).

### 3.3.3 Human Capital Resources

Libya is rated as a high human development country, ranked at 105 positions, with 0,724 value. The human development index includes life expectancy at birth, rate of literacy, education index (expected years of schooling) and gross national income per capita. The Table -1 shows the Libya's development of GDI for the past 4 years.

**Table 1: HDI of Libya**

| Year | HDI | GDP per capita | Life expectancy at birth | Expected years of schooling | Mean years of schooling |
|---|---|---|---|---|---|
| 2017 | 0,701 | 5756 | 72,5 | 12,8 | 7,6 |
| 2018 | 0,729 | 7877 | 72,7 | 12,8 | 7,6 |
| 2019 | 0,721 | 7685 | 72,9 | 12,9 | 7,6 |
| 2020 | 0,724 | 3699 | 73 | 13 | 7,8 |

Source: hdr.undp.org/data/2022.

[56] Etelawi, A. M., Blatner, K. A. and Mccluskey, J. (2017) 'Crude Oil and the Libyan Economy' (May). [online]. [Accessed: 26-06-2022]. Available at: 10.5539/ijef.v9n4p95.

Based on the table above, the Libya has reached the human development level of 7,24 out of one (the maximum value of GDI) and is considered to be the highest indicator among the Arab state, which achieved the 0,62 out of one.

### 3.3.4 Market size and Growth

As it has been mentioned, the market size is one of the most important determinants which dictate the Foreign Direct Investment flows into the country. As stated by (Wallace, J. & Wilkinson, B. , 2015) the population plays an important factor in developing the growth of economy. However, with the limited number of population, Libya is still considered as a high purchasing power state, because of its geographical location, which helps the market breath.

### 3.3.5 Political Risks

Political risks are significant factors that might impact the decision of foreign direct investors to the host country. Libya has issued various laws to promote FDI into the country in order to guarantee the protection to foreign direct investors, and thus, the following laws were set to minimize the political risks towards FDI, Article No. 23 of Law No. 5 and Law No. 9 for 1997 and 2010, 30 of their executive regulations provide guarantees to FDIs (GPC, 1997)[57], (GPC, 2000)[58], (GPC, 2010)[59].

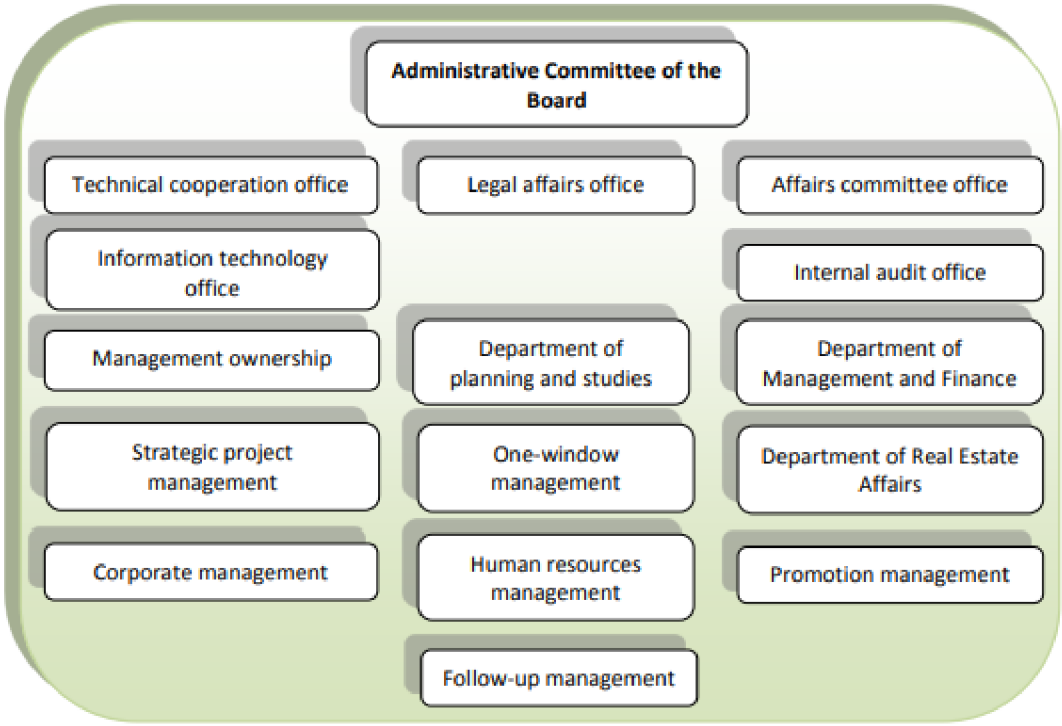
These guarantees include tat the project will not be nationalized; ownership will not be disarmed; not forced seizure, confiscation, reservation or freeze, and the subject will not be threatened by any action.

The Article No. 5 of Law No. 5 for 1997 to promote FDI in the Libyan economy stipulates the creation of a special body called the Privatization and Investment Board, PIB. The body has got an independent role and affiliated to Ministry of Economy, Trade and Investment. It carries the responsibility of national and foreign investment, creation of appropriate climate and

[57] GPC. (1997). Law No. (5) of 1426 PB (1997) for promotion of investment of foreign capital, as amended by Law No. (7) of 1371 PD (2003). TGPs Congress, 5. Libya: Libyan Foreign Investment Board.
[58] GPC. (2000). Law No. (9) of 1429 regarding organizing trade of transit and free zones. TGPs Congress. Libya: Ministry of Economic, Trade and Investment.
[59] GPC. (2010a). Executive regulations of Law No. 9 of 2010 regarding to encourage FDI to Libya. No. 499. GPs Committee, 9. Seret, Libya: GPC.

technology transfer and diversification of economy in general. The Figure – +, demonstrates the organizational structure of PIB.

**Figure 1: Administrative Committee of the Board (PIB).**




Source: PIB (2020).

Libya has set up the right set of rules and regulations for foreign direct investors, however, the outbreak revolution of 17 February of 2011, when a country experienced a civil war between the rebels and Gaddafi for eight months, which eventually led to a political and economic instability and the absence of FDI flows into the country, and certainly impacted negatively on an economic growth this year. Moreover, the FDI inflow declined to 0 this year, due to revolution in Libya.

The UNCTAD organization, has classified Libya, as one of the worst countries for investments for opening up a global market through FDI, trade and etc. (UNCTADstat. (2012), 2012)[60].

[60] UNCTADstat. (2012): Libyan economy indicators. [online]. [Accessed: 26-6-2022]. Available at: http://unctadstat.unctad.org/TableViewer/tableView.aspx:

### 3.3.5 Corruption

Corruption is the strongest local determinant of FDI, because it deters the FDI in a host country, due to excessive amount of capital, the officials are not able to take control of paid bribes, receive benefits, permits and licenses as well as tax avoidance. The government has taken serious steps forwards for combating corruption, which is rampant in the Libyan government administration (Otman, W. A. & Karlberg, E., 2007).

The transparency international organization is interested in identifying the level of transparency which will indicate the level of corruption in countries around the globe. An annual Global Corruption Report stated that:

*"Corruption doesn't just line the pockets of political and business elites; it leaves ordinary people without essential services, such as life-saving medicines, and deprives them of access to sanitation and housing. In short, corruption costs lives".* (Transparency International, 2005)[61].

**Table 2: Corruption Index of Libya, 2017 - 2020.**

| Year | Rank | Score | Scale |
|---|---|---|---|
| 2020 | 172 | 2,1 | 10 |
| 2019 | 172 | 2,5 | 10 |
| 2018 | 170 | 2,7 | 10 |
| 2017 | 171 | 2.0 | 10 |

Source: https://www.transparency.org/en/countries/libya

The country is being measured from 0 to 10, at its maximum score, which indicates the highest level of corruption in a country. Transparency International determines the Corruption Perception Index through "experts' opinions and assessments of surveys".

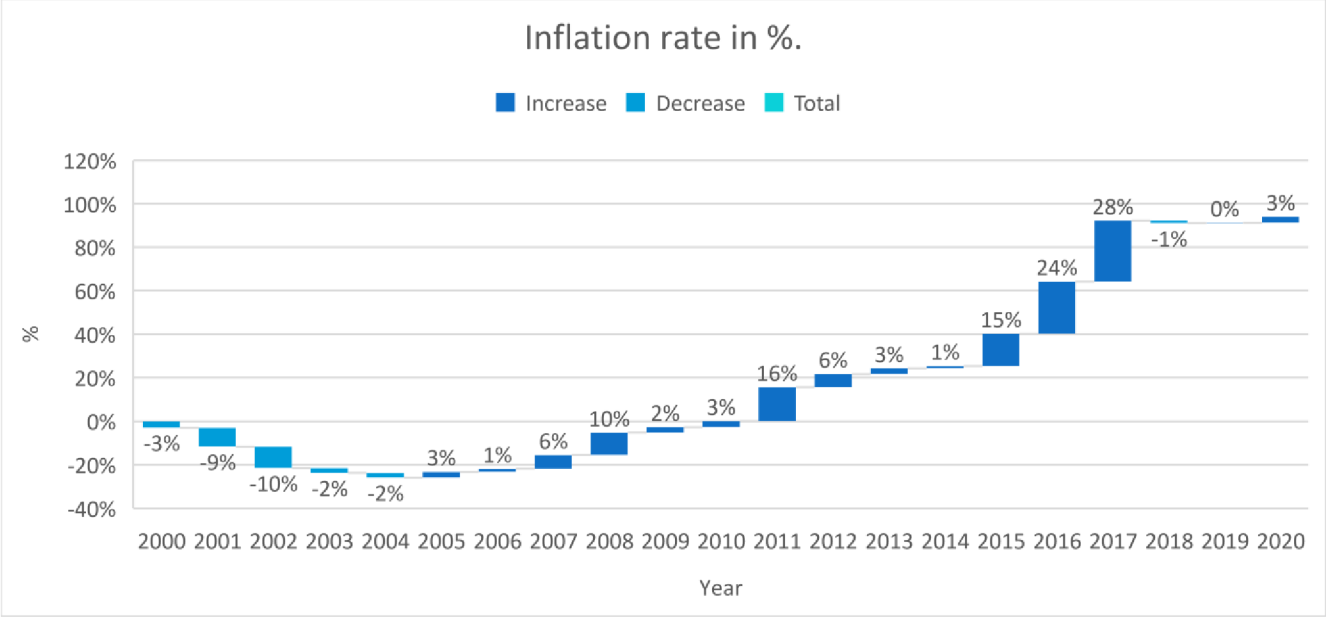
### 3.3.6 Inflation Rate

The inflation rate determines the county's success in attracting FDI's, hance being one of the relevant indicators to consider. A high inflation rate indicates instability of a state, warning investors about unsteady economic condition. The world economic outlook has highlighted that inflation rate is fluctuational in Libya, as an example of (IMF, 2012) The Inflation rate increased

[61] Transparency International. (2005). GCR: Construction and post-conflict reconstruction: Global corruption report. Berlin: Author.

from -2,0 percent in 2003 to 10,4 percent in 2008, which was the highest point in the last decade before falling back to 2,3 in 2010. See (Graph - 4).

**Graph 4: Inflation Rate of Libya.**




Source: worldbank.com (2022).

The ups and downs of Libyan inflation has been explained by (Etelawi, A. M., Blatner, K. A. and Mccluskey, J., 2017), who examined the inflation rate for the past 2 decades of Libyan economy, concluding that "an appreciation of the effective exchange rate increases price inflation significantly, hance this might be the result of the effect of appreciation on demand for money". Appreciation decreases money demand, thus increasing velocity and price inflation. (Page - 171). They also claimed that inflation rate when increased, damages FDI inflows and increases FDI outflows.

# 4 Practical Part

Within this chapter, the author plans to run a Linear Regression Model, where GDP will be dependent variable and Foreign Direct Investment is independent, hance effecting the development of GDP. The author takes a time series for 21 years, from 2000 up to 2020, to see the correlation between them. The Chapter – 2.1 describes the steps, according to which, the author will test the model.

Economic model: $\mathbf{y_{1t} = B_0 + B_{1xi1} + B_{2xi2} + B_{3xi3} + B_{4xi4} + U_t.}$

Where:

$Y_{1t}$ – Gross Domestic Product (Nominal value, in millions USD)

$B_0$ – Constanta.

$X_1$ – Foreign Direct Investments ( in millions USD)

$X_2$ – Price of Oil per barrel (USD)

$X_3$ – Barrels produced per day (annual data).

$X_4$ – Inflation rate (annual data, %).

$U_t$ – Random Error Term, (residual error).

T – time series (21 years)

K – degree of freedom (3).

Alfa level – 0,05 %.

The author run the model in advance with an inflation rate, where inflation rate was not significant to the GDP (dependent) variables, the output of the model could been seen below. The author has excluded the variable from the data, see the Data Set in Appendix – 1.

**Figure 2: Multiple Linear Regression Model.**

| ANOVA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *df* | *SS* | *MS* | *F* | *Significance F* | | | |
| Regression | 5 | 7140518469 | 1428103694 | 30,86255102 | 2,19501E-07 | | | |
| Residual | 15 | 694095423,2 | 46273028,21 | | | | | |
| Total | 20 | 7834613893 | | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
| Intercept | -38603,47403 | 8759,045282 | -4,407269604 | 0,000509438 | -57272,93711 | -19934,01094 | -57272,93711 | -19934,01094 |
| FDI in millions | -1,281593776 | 0,545151199 | -2,350896003 | 0,032820956 | -2,443556052 | -0,119631499 | -2,443556052 | -0,119631499 |
| Price of OIL per Barrel | 300,922029 | 50,47306326 | 5,962032213 | 2,6056E-05 | 193,3412413 | 408,5028168 | 193,3412413 | 408,5028168 |
| Barrels per day (in th) | 37,16396111 | 4,38624339 | 8,472845169 | 4,2156E-07 | 27,81490464 | 46,51301759 | 27,81490464 | 46,51301759 |
| Inflation Rate | -8451,66986 | 21019,65987 | -0,402084045 | 0,693293318 | -53254,01434 | 36350,67462 | -53254,01434 | 36350,67462 |
| Time Series | 2118,837743 | 513,1679755 | 4,12893603 | 0,000892373 | 1025,046095 | 3212,629392 | 1025,046095 | 3212,629392 |

Source: Own, processed in Excel.

From the Figure above, we could see that not all variables are statistically significant. The variable (Inflation Rate), based on its p-value, the variable turned out to be insignificant. In this case, the author has got to rerun the model without Inflation Rate.

**Figure 3: Multiple Linear Regression Model - Without Inflation Rate.**

| ANOVA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *df* | *SS* | *MS* | *F* | *Significance F* | | | |
| Regression | 4 | 7133037436 | 1783259359 | 40,66862488 | 3,42515E-08 | | | |
| Residual | 16 | 701576456,7 | 43848528,54 | | | | | |
| Total | 20 | 7834613893 | | | | | | |
| | | | | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95,0%* | *Upper 95,0%* |
| Intercept | -38033,34149 | 8414,02543 | -4,520231346 | 0,000348652 | -55870,27859 | -20196,4044 | -55870,27859 | -20196,4044 |
| FDI in millions | -1,200051604 | 0,492591047 | -2,436202631 | 0,026904974 | -2,244297974 | -0,155805234 | -2,244297974 | -0,155805234 |
| Price of OIL per Barrel | 298,4007145 | 48,75233879 | 6,120746654 | 1,47574E-05 | 195,0503732 | 401,7510559 | 195,0503732 | 401,7510559 |
| Barrels per day (in th) | 37,18726814 | 4,269414798 | 8,710155819 | 1,80875E-07 | 28,13651309 | 46,2380232 | 28,13651309 | 46,2380232 |
| Time Series | 2027,259244 | 447,6460833 | 4,528709888 | 0,000342599 | 1078,291939 | 2976,226548 | 1078,291939 | 2976,226548 |

Source: Own, processed in Excel.

Based on the model, all variables seemed to have a statistical significance on the model and the model is structured in the following way:

$$y_t = -38033{,}314 - 1{,}20 * x_1 - 298{,}40 * x_2 + 37{,}187 * x_3 + U_t.$$

Based on the Significance of F, which equals to 0,0000000040, at Alfa level of 0,05.

I reject the null hypothesis of being H0: $B_{nxn}=0$ (whereas as an opposite is)

$$H1: B_{nxn} \neq 0.$$

I reject the H0, meaning that we would have to test the significance of each variable individually.

**Figure 4: Summary output**

| SUMMARY OUTPUT | |
|---|---|
| *Regression Statistics* | |
| Multiple R | 0,954676153 |
| R Square | 0,911406557 |
| Adjusted R Square | 0,881875409 |
| Standard Error | 6802,428111 |
| Observations | 21 |

Source: Own, processed in Excel.

**Model Verification:**

| Variable | P – value | Alfa | Reject/Accept | Significant/Insignificant |
|---|---|---|---|---|
| $X_{1t\ (FDI)}$ | 0,0269 | < 0,05 | Reject | Significant |
| $X_{2t(Price\ of\ oil)}$ | 1,4757E-06 | < 0,05 | Reject | Significant |
| $X_{3t(Barrels\ per\ day\ produced)}$ | 1,808E-09 | < 0,05 | Reject | Significant |

Source: Own Processing in Excel SW.

Based on the P-value of each variable, I concluded that all variables are significant for the model.

**Multicollinearity:**

| | *GDP nominal* | *FDI in millions* | *Price of OIL per Barrel* | *Barrels per day (in th)* |
|---|---|---|---|---|
| GDP nominal | 1 | | | |
| FDI in millions | 0,126831895 | 1 | | |
| Price of OIL per Barrel | 0,656636626 | 0,116258291 | 1 | |
| Barrels per day (in th) | 0,580212323 | -0,019705936 | -0,030744553 | 1 |

Source: Own, Processed in Excel.

Multicollinearity is not present in the model, however the highest correlation of two independent variables is seen between FDI and Price of Oil per Barrel, however it is not that high, only 11%.

**Durbin – Watson Test**

The author run a test for autocorrelation, for Foreign Direct Investments in relation to GDP, the results are the following:

| *Observation* | *Predicted GDP nominal* | *Residuals* | *Standard Residuals* | *DW Numerator* | *DW Denominator* |
|---|---|---|---|---|---|
| 1 | 45837,96927 | -7567,762318 | -0,385474084 | | 57271026,5 |
| 2 | 45916,79419 | -11806,72974 | -0,601391553 | 17968844,78 | 139398867,1 |
| 3 | 46648,25806 | -26166,3683 | -1,332818927 | 206199219,6 | 684678829,9 |
| 4 | 45919,25496 | -19653,62996 | -1,001083899 | 42415760,66 | 386265170,6 |
| 5 | 45918,02457 | -12795,71688 | -0,651766934 | 47030971,77 | 163730370,5 |
| 6 | 46389,87722 | 944,2713629 | 0,048097723 | 188787277 | 891648,4067 |
| 7 | 46389,87722 | 8572,059448 | 0,4366293 | 58183151,07 | 73480203,18 |
| 8 | 46808,20811 | 20708,02823 | 1,054791083 | 147281738,3 | 428822433,1 |
| 9 | 46295,26061 | 40845,14475 | 2,080502015 | 405503461,8 | 1668325850 |
| 10 | 46923,18759 | 16105,13312 | 0,820336471 | 612068175,7 | 259375312,7 |
| 11 | 47097,34858 | 27676,09632 | 1,40971894 | 133887189,5 | 765966307,6 |
| 12 | 46407,1026 | -11707,70708 | -0,596347701 | 1551083970 | 137070405,1 |
| 13 | 45910,64226 | 35963,02025 | 1,831824482 | 2272498245 | 1293338826 |
| 14 | 47373,44697 | 18129,4232 | 0,923446391 | 318037183,7 | 328675985,7 |
| 15 | 46329,46531 | -5186,742899 | -0,264193679 | 543643601,7 | 26902301,9 |
| 16 | 45927,96689 | -18085,83541 | -0,921226188 | 166386587,5 | 327097442,4 |
| 17 | 46833,57553 | -20611,91545 | -1,04989545 | 6381080,383 | 424851058,5 |
| 18 | 48604,57018 | -10496,8421 | -0,534670676 | 102314708,9 | 110183694,1 |
| 19 | 53627,61687 | -1011,616872 | -0,051528057 | 89969497,62 | 1023368,696 |
| 20 | 55378,70078 | -3359,700778 | -0,171130848 | 5513498,032 | 11287589,32 |
| 21 | 45921,60891 | -20492,60891 | -1,043818412 | 293536540,9 | 419947019,8 |
| | | DW | 0,935151122 | 7208690704 | 7708583711 |

Based on the result of DW = 7208690704/7708583711= 0,935.

Based on the model, even though, there is a significant impact of FDI to GDP, the other variables which are linked with the production of oil, such as oil prices and production of oil per day (in barrels), are more significant than FDI. Which confirms the theory of (Moosa, 2002), who stated that foreign direct investments are not that significant to GDP development. He also stated that oil prices will dictate the development of GDP.

(Programme, U.N.D., 2019) also concluded a report on oil and gas sector and its development, where prices for oil per barrel, is highly fluctuating and hance demonstrates the development of GDP.

Libya is a member of the Multinational Investment Guarantee Agency and The World Bank. These organizations provide guaranteed investments. Based on the study of (Wallace, J. & Wilkinson, B. , 2015) they concluded that there were 697 firms, who operated in oil sector and only 259 of them were domestic companies, and the rest are foreign.

In the first model, the variable of Inflation Rate, turned out to be insignificant, however the research of (Alhasadi, A.Y., 2019)[62]. The Libyan economy fully depends on imported goods in terms of consumption and investment goods. With an increased inflation within the period of 2011-2018, the cost of goods has increased almost by 50 %. Libyan economy yet relies on oil exports to finance the state budget and is considered as the main source of income in Libya. The event which took place in Libya after revolution, has led to a decrease in production and export of oil, thus inflation let to higher prices of Libyan exports and reduced their competitiveness on the international market. Alhasadi (2019) run a LRM model to see the statistical significance, within this research, he analyzed the development of prices of Libyan economy. However, it does indicate that the economic development was slightly shocked.

[62] Alhasadi. A.Y. (2019): The impact of inflation on the Libyan economy after the Arab Spring Revolution during the period (2011-2018). Page-9. [online]. [Accessed: 28-06-2022]. Available at: http://www.scirj.org/papers-0419/scirj-P0419634.pdf

# 5 Conclusion

In this bachelor thesis, the author has set the goal, to define the impact of Foreign Direct Investments on the national economy of Libya and its main indicator development GDP in the period of 2000 to 2020. As for the theoretical part, the bachelor thesis tends to describe the forms of FDI and market, strategic, efficiency and resources seeking goals. Additionally, the author describes the determinants which might impact the foreign direct investments in Libya, and eventually, the author represents the background of Libyan's economy with its reserves, which are mainly focused on natural resources.

However, foreign investors have faced many problems with entering the Libyan's economy, and thus, it is very important for the Libyan government to provide investors with effective means such as: bureaucratic excesses, as it is the most common problem which foreign direct investments face. By improving legal and institutional environment, because it was one of the major problems facing foreign investors and bureaucracy in all FDI stages, from the beginning to the end of registration processes. This was due to the fact that, Libyan government wasn't interested in attracting FDI in any other sectors, besides oil and gas. Thus, it should work on improving the registration system. It could be done by creating the webpage, as it is done by Egyptian government. Yet, very important to publish a reliable economic indicators and data related to the economy matters, so foreign investors would evaluate the entrance options and know exactly how to proceed further.

In terms of the Libyan economy, the main sector which contributes to its economy is the crude oil, the currency earnings account for over 96 % of revenues. Crude oil sector provides many opportunities for the further development of economy and its diversification, however, at the same time, it creates many problems that Libya faces, such as mentioned in the literature review (corruption, bureaucracy, stagnation, dependency on natural resources, unfavorable business climate and etc.) Additionally, the Libyan crude oil sector actually provides a massive support for social and economic development, however, again, the allocation of those resources is the main issue of the country. The crude oil becomes depleted at eventually will come to its end. Libyan government must run a public surplus in the period of high prices and should invest

those surpluses in alternative non-crude oil sector. However, Libyan economy is considered one sector economy and heavily relies on the oil and gas sector. It means that leavy is limited in its offers for foreign direct investors. The Libyan has a centralized economy with a very specific phenomenon. Due to a weak private sector, financial sector and banking sector and very little involvement in the global economy, Libyan is not able to get rid of the dependency of oil and gas sector.

Another problem of the oil and gas sector is that it is more of a capital-intensive sector but not labor intensive, meaning that it is not able to solve a problem with the unemployment level.

The government should make an investment climate more attractive and diverse for foreign direct investments by creating new reforms and implement those reforms in the economy. Additionally, the government should look for bureaucratic procedures and especially concentrate on security, stability of political frame and legal framework within Libya's territory.

Banking sectors and financial sectors, pension fonds and other institutions should reinvest its money (in case of a surplus) into different sector and create more of a labor-intensive work to solve the problem of unemployment.

Libyan's economy is very closed and should be more focused on liberalization and more action within a global economy.

# Literature Review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# Appendix – 1.

| GDP nominal | FDI in millions | Price of Oil per Barrel | Barrels per day (in th) | Time Series | Inflation Rate |
|---|---|---|---|---|---|
| 38270,20695 | 12,8695 | 22,76 | 1475 | 1 | -3% |
| 34110,06445 | 141 | 25,66 | 1427 | 2 | -9% |
| 20481,88976 | 1330 | 25,73 | 1375 | 3 | -10% |
| 26265,625 | 145 | 25 | 1485 | 4 | -2% |
| 33122,30769 | 143 | 33,59 | 1623 | 5 | -2% |
| 47334,14858 | 910 | 51,88 | 1745 | 6 | 3% |
| 54961,93666 | 910 | 70,26 | 1816 | 7 | 1% |
| 67516,23634 | 1590 | 67,49 | 1820 | 8 | 6% |
| 87140,40536 | 756,2 | 109,07 | 1875 | 9 | 10% |
| 63028,3207 | 1776,9 | 50,18 | 1739 | 10 | 2% |
| 74773,4449 | 2060 | 84,82 | 1799 | 11 | 3% |
| 34699,39552 | 938 | 123,26 | 516 | 12 | 16% |
| 81873,66252 | 131 | 119,75 | 1539 | 13 | 6% |
| 65502,87017 | 2508,8 | 102,25 | 1048 | 14 | 3% |
| 41142,72241 | 811,8 | 107,76 | 518 | 15 | 1% |
| 27842,13149 | 159,161313 | 59,52 | 437 | 16 | 15% |
| 26221,66008 | 1631,234926 | 41,58 | 412 | 17 | 24% |
| 38107,72808 | 4510 | 52,31 | 929 | 18 | 28% |
| 52616,15673 | 12675 | 72,11 | 1165 | 19 | -1% |
| 52019,16992 | 15521,4 | 71,23 | 1306 | 20 | 0% |
| 25429,16833 | 148,826357 | 18,38 | 390 | 21 | 3% |

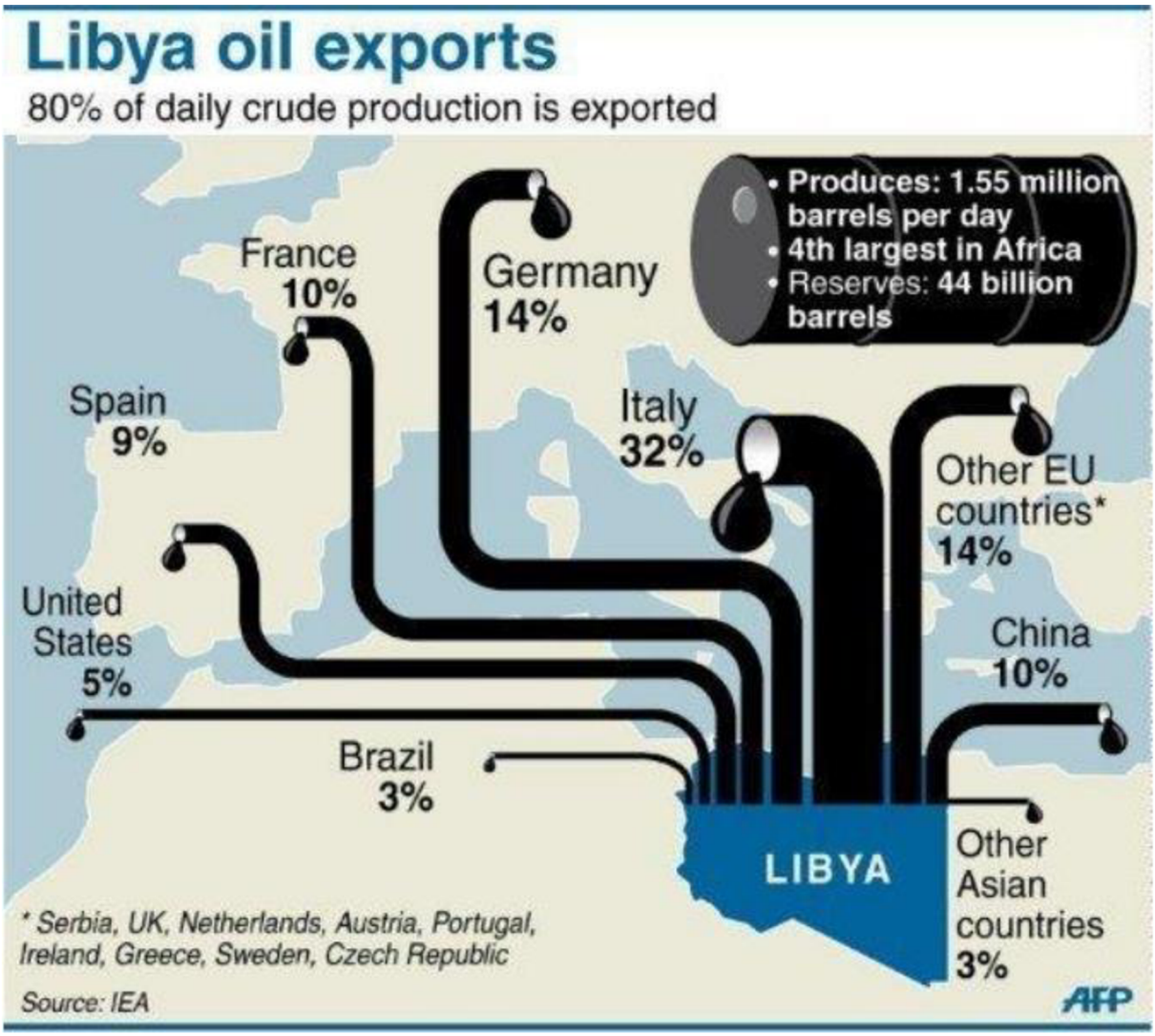
Source: World bank data of 2022.

# Appendix – 2.

Descriptive Statistics of all variables.

| *GDP nominal* | | *FDI in millions* | | *Price of OIL per Barrel* | | *Barrels per day (in th)* | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| Mean | 47259,94079 | Mean | 2324,294862 | Mean | 63,55190476 | Mean | 1259 |
| Standard Error | 4319,009447 | Standard Error | 890,4337461 | Standard Error | 7,365830365 | Standard Error | 114,7126846 |
| Median | 41142,72241 | Median | 910 | Median | 59,52 | Median | 1427 |
| Standard Deviation | 19792,18772 | Standard Deviation | 4080,480043 | Standard Deviation | 33,7544752 | Standard Deviation | 525,6795602 |
| Sample Variance | 391730694,6 | Sample Variance | 16650317,38 | Sample Variance | 1139,364596 | Sample Variance | 276339 |
| Kurtosis | -0,750206643 | Kurtosis | 6,729451165 | Kurtosis | -1,031607274 | Kurtosis | -1,099087122 |
| Skewness | 0,573446792 | Skewness | 2,705219155 | Skewness | 0,389760839 | Skewness | -0,615657379 |
| Range | 66658,5156 | Range | 15508,5305 | Range | 104,88 | Range | 1485 |
| Minimum | 20481,88976 | Minimum | 12,8695 | Minimum | 18,38 | Minimum | 390 |
| Maximum | 87140,40536 | Maximum | 15521,4 | Maximum | 123,26 | Maximum | 1875 |
| Sum | 992458,7567 | Sum | 48810,1921 | Sum | 1334,59 | Sum | 26439 |
| Count | 21 | Count | 21 | Count | 21 | Count | 21 |
| Confidence Level(95,0%) | 9009,295834 | Confidence Level(95,0%) | 1857,412247 | Confidence Level(95,0%) | 15,3648529 | Confidence Level(95,0%) | 239,2864669 |

## Appendix – 3.




Source: IEA (2018).