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IMPACT OF THE POLITICAL INSTABILITY ON THE LIBYAN ECONOMY

Rwida Kreiw
Faculty of Economics- University of Belgrade, Serbia, rwidakriew@yahoo.com

Abstract: Regarding the Libyan macroeconomic framework, the petroleum sector returns caused to the government and the need to support civil service job opportunity and preserve the widespread funding system. In 2006, the increasing of the price of the Libyan price oil, around US $63.05, had a significant and positive influence on the Libyan economic situation. The price increased around 65 % compared to the corresponding value in 2004 which was in averaged around US $38.In the same context, the favorable enhancement in the oil sector donated to an observable development in balance of payment surplus, which achieved around 15.4 % of gross domestic product. Also, international reserves improved to be around 19 billion US dollars. Moreover, the Libyan authorities have decreased the bank the percentage of interest rates across the board to enhance the demand in the private sector for credit and established a strategy to update the payment system. All these monetary policies and strategies affect positively on the Libyan macroeconomic and financial situations to be satisfactory in 2004.In 2005, the performance of the macroeconomic stayed comparatively strong. The gross domestic product achieved approximately about 3.5 %. Moreover, the inflation stayed 2.5 %. On the other hand, the economic development is assessed to have been created mainly 4.5 % in the non-oil sectors. In details, the non-oil sectors such as hotels and transportation, construction and services, agriculture and manufacturing sector with respectively values 7%, 5%, 2.5 % and 1.8%. unfortunately, all these sectors showed weak performance recently because of the unstable political situation in the country.Regarding to the banking sectors, according to (Murugiah and Akgam, 2015), Libyan banking sector has realized especially after the issuance of laws. In 2005, this Central Bank of Libya has significant impact on establishing banks and reorganization assets inducing them to look for new investment chances. In our model, the variables Stock Capital, Libyan Oil PriceNumber of population in Libya and dummy variable for the political instability have significant impact on the Libyan gross domestic products at 5% significance level. The heteroscedasticity and autocorrelation tests are checked in the model.Finally, we conclude that increasing (decreasing) the oil and gas prices has a significant influence on the economic development generally in Libya and on the macroeconomic indicators, such as gross domestic product, monetary policy, the unemployment rate, and the inflation rate in the country.
Keywords: Libya, oil, econometric, GDP

1. INTRODUCTION

Libya has an area of around one million and half km^2. Because of that Libya is considered on f the fourth largest country in Africa. Regarding the geography population distribution, the largest percentage of the Libyan population are living and concentrating in a small area close to the Mediterranean Sea which does exceed 2% of the country, because of the natural condition of the country. The desert has the largest percentage of the country which can be around 90 % Moreover, the major two cities - Tripoli and Benghazi are containing more than 50% of the population. More importantly, The Libyan coastline is so long measures approximately 1970 km from the Egyptian border to Tunisia.

Oil sector is considered one of the most vital global industrial sectors. Moreover, it is the most significant contributor to the world economy. Not only does it have the important impact on the developing countries, but also on developed ones. Oil sector generates foreign exchange earnings, which has a significant influence on income and economy growth rates in the developing-countries and newly industrialized countries. In addition, foreign exchange earnings alleviate the balance of payments problems encountered in these countries. The balance of payments deficit can be treated by external or internal borrowing or by transforming between reserves. Developed and developing countries, especially non-oil exporting countries which have deficits in the balance payment, depend mostly on the earnings from Oil sector to reduce and get rid of such deficits, rather than taking grants and loans which usually represent the main flows in these countries. Deficits occur when the exports earnings are not high enough to cover the country imports, thus leading to the drop of national currency value against the foreign currencies. This reduction has direct and indirect effect on the economic status and will make imports expensive in comparison to the cheap exports due to low value added.

The official Libyan government source stated that the unemployment rate in Libya was 7.7 % in 2001 which decrease by 1.4 % from the percentage in 1995. On the other hand, because of the political instability in the country the unemployment rate increases almost doubled to be 13 % in 2005. In the same context, the situation became

worth in 2006 when the World Bank announced that the unemployment rate reached around 25 % 2006. The unemployment rate is also estimated by other sources to be even higher to be almost 30%. The objectives of this paper can be summarized as following : 1) To investigate a relationship between energy consumption and the Libyan economy. 2) To discuss the main sources of energy in Libya and how they contribute to economic growth. 3) To make policy recommendations based on the analysis from the study. The paper is constructed as exploring the relation between the Libyan economy and oil in the second section. The relevant literature review is presented in the third section. The fourth section is providing the econometric analysis. The results and conclusion are conducted in the fifth and sixth sections, respectively.

2. RELATION BETWEEN THE ECONOMY AND OIL IN LIBYA

Early, there is a significant quickly increase in the incomes from the exports of oil to be around US$ 625 million in year 1967 from almost US $40 million in year 1962 means around fifteen-fold. The Libyan oil is a "sweet" crude, which means that it has a low proportion of impurities – a very favorable attribute. Because of that Libya moved from deficit of the balance payment to surplus of the balance payment country. In the same direction, Energy Information Administration, 2013 stated that 96 % of the Libyan economy depend on the hydrocarbon production. EIA, 2013 provides also that Libya around 98 % of all export revenue which represents around US $4 billion per month (EIA, 2013).

In the same direction, Ycharts site (2016) showed that the production of the Libyan Oil fell suddenly in 2013 because of the unstable political situation. Regarding the Ycharts site (2016), Libya produces around 332.000 barrels per day during the first half of year 2016. In the same context, Mills (2008) stated that that Libya is an important member of the (OPEC) Organization of Petroleum Exporting Countries producing country. Libya's potential as a supplier has been dropped because of the instability political situation. Consequently, the Libyan oil production decreased from a peak of 3.4 million barrels per day in year 1970 to be around only one million barrels per day in 1987. In 2002 and 2006, the oil production reached to 1.4 and 1.8 million barrels per day, respectively. The Libyan government should take into account the following points when the prices go up: firstly, the petroleum laws and contracts should be updated according to the changing in prices. Secondly, they should gain for documentation of new chances. Thirdly, the infrastructure should be developed to introduce more facilities for the foreign investors. Fourthly, the Human capital should be qualified and well educated to match with the new developments. Finally, more resources and latest techniques should be utilized. Moreover, the government would build strong relationship with European countries. The safety and security are the most important issues for new investors. thence, the Libyan authorities would offer better security on and off responsibility employees. It is important to recognize all obtainable recourse for future improvement in this future investment. The Libyan authorities would try eliminating or reduce the deficit of the balance payment by using the recourses of oil and gas sector.

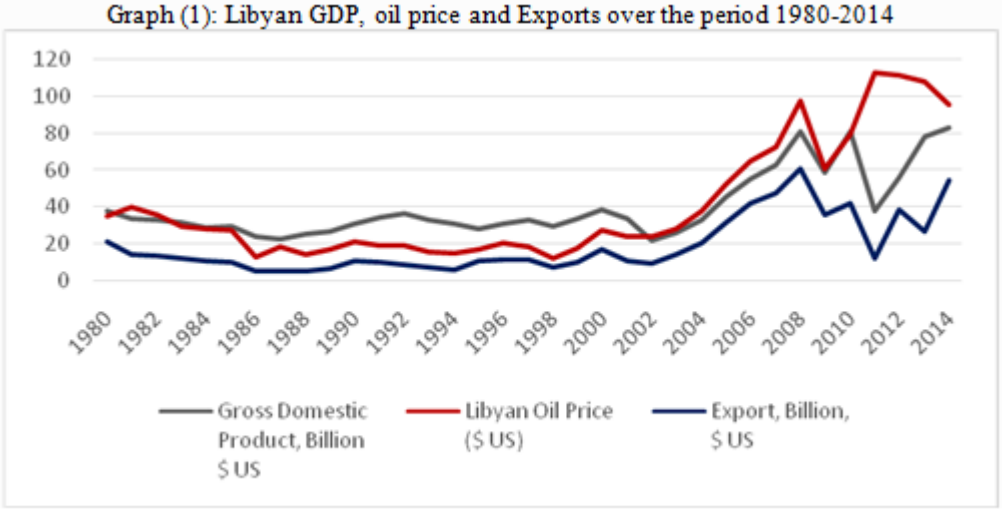
Even though the Libyan petroleum sector has as significant and vital influence on the economic development in Libya, there are several challenges for the government to retain this process continues in the future. It is very difficult for government to run all the operations in the oil and gas fields even after finishing the conflicts. It is examined that the National Transitional council of Libya (NTC) holds limited recourses and administrative capacity therefore it can't work on every place at the same time. Political instability is a major challenge for the government which it could not be solved properly. It is normal that there is strong and positive relationship between the Foreign investment and the safety and stability in the political situation. Means, the investors will feel insecure while investing in the Libya due to this political instability and security issues.

Political stability and economic growth are directly related with each other and oil and gas sector carry equal importance of each factor (Oil & Gas in Libya, 2013). Another challenge for government is transparency in business practices. It is criticized by some global organization due to this issue. Offering the transparency in business practices is very significant and have important value for the economic growth and development to provide the. Now current government is taking this issue seriously and trying to implement new contract rules for business practices in the country. Furthermore, there are foreign direct investment such as issues of practical logistics, flying, visa issues and short supply of hotels.Libya is facing many issues in banking problems which are increasing with the passage of time. More importantly, the Libyan government should spend more investments and facilities for infrastructure issues which have important impact on increasing the investment in the country. The sea ports of Libya are not enough for the carriage of huge capacity which is another drawback of this country. The downstream businesses is one of the winners in a low oil price scenario the because it utilizes crude oil as an input in their factories and marketing processes. Decreasing the oil price leads to lower fuel expenditure for these businesses,

increasing their refining limitations and effectiveness. Generally, Petroleum companies are likely to enjoy higher profits in the coming months due to lower oil prices.

Libya as one the most important oil production country will be the obviously the loser in a weak oil price scenario. In the same context, the exploration and production companies that can discover, explore, and trade oil and its products in the international markets. Decreasing the oil prices would result in lower price understanding for these companies, producing their incomes as well as profit to drop significantly.In the same context, in Libya also there are integrated oil and gas companies will suffer a lot from decreasing the price of the oil and gas as well as the exploration and production companies. These companies have distinguished upstream operations which are estimated to see a weakening in their price realizations, and, in turn, revenues due to low oil prices. Means, the Libyan economy will be badly affected directly from exploring and production companies and indirectly by the integrated oil and gas companies.

Graph (1): Libyan GDP, oil price and Exports over the period 1980-2014



Source : Author's calculation

The previous graph shows the significant increase of the gross domestic products of Libya. The gross domestic products peaked in 2008 to almost more thantwofold versus the gross domestic products at the beginning of the period, in 1980 with corresponding value US$ 38.19 Billion. from2009, the value decreased dramatically reaching US$ 58.76 Billion due to political instability in North African countries. The previous table shows also the that the Libyan oil price increased also to be US$ 112.89 in year 2011. On the other hand, the Libyan exports decreased in this year to be US$ 12.19 Billion after it was US$ 47.82 Billion in year 2007.

The Financial markets will be affected significantly by the cost of crude oil. Means, dropping the prices of the oil can affect badly the balance sheets of energy companies. When the oil prices fall, the cost of exploring, and production will increase which will make these investments commercially unfeasible. Increasing the prices of the oil and gas prices has positive influence on the current account of the balance of the payment. Because this improvement increase the net of the exports towards the net of imports which eliminate(reduce) the negative difference in the balance payment (deficit).

3. LITERATURE REVIEW

Lescaroux and Mignon (2008) investigated the relation between the between the prices of the oil and gas and some different macroeconomic variables, such as, the gross domestic product, unemployment rate and consumer price indexes in the short and long run. The result shows that there is significant relationship only in the non-OPEC (Organization of Petroleum Exporting Countries) members between the oil prices and unemployment rates which in consistent with Berument, Nildag and Nukhet (2010). Moreover, Lescaroux and Mignon (2008) concluded that there is significant relationship between the prices of the oil and Consumer price indexes for the OPEC and oil-exporting countries. Means, increasing the Oil prices have a large impact on the on the consumer price indexes in Libya, UAE, UK and Mexico.

It is not the only research to study the relationship between the prices of the oil and macroeconomic variables. Among others, Brown and Yücel (2002), Jones, Leiby and Paik (2004) and Lardic and Mignon (2006) showed that the changing in the prices of the oil may have influence on economic activity. the authors concluded that increasing

in the prices of the oil affect the macroeconomic variables such as employment, profits and investment and core inflation. In the same context, Yahia and Metwally (2007) studied the relation between the fluctuations in oil prices and Libyan economic growth in terms of the gross domestic product. The authors show the percentage of the oil exports as percentage of the Libyan gross domestic product. The oil exports represent around 65% of the Libyan GDP in 2004 which increase from 20 % in1998. It is important to mention that this percentage changed from 0.47 in 1963 to be 62 % in 1974.

Berument, Nildag and Nukhet (2010) stated that there is a statistically significant and positive impact on the outputs in different countries such as, Libya, Egypt, Qatar and Syria. Kornonen and Juunkkala (2007) showed that increasing the oil prices affect positively on increasing the real gross domestic product as well as the earning of exports which create the terms-of-trade effect. Griffin, and Teece (1982) showed that decreasing the prices of the oil and gas in OPEC countries affect directly the gross domestic product in these countries in negative way. Moreover, the economical political Behaviour in these countries will be affected. Apart from the economical factors, the unemployment rate will be increase as well as the inflation will be influenced as direct result of the oil price effects. In the same context, Yuan, Kang, Zhao and Hu (2008) point out that the factors "labor, capital, and energy consumption" are important factors underlying gross domestic product which is consisted with (Shaari, Hussain and Ismail, 2013). Moreover, oil prices have a significant contribution to explain the investment by improving the firms' costs. There are winners and losers from increasing the prices of the oil. The Libyan official government that Libya stated that it would increase the oil production by producing 1.5 million barrels to 1.7 million barrels per day at the end of the 2013. This industry contains a great significance for the country therefore it is the priority of newly established government to recital this industry in order to achieve high growth rate (Oil & Gas in Libya, 2013).

4. MODEL STRUCTURE AND DATA

The production function of a firm can be established as following form:

$$Y_i=F\ (L_i,\ K_i,\ OP_i,\ POP_i,\ D_{2011}) \qquad (1)$$

The Dependent variable: Libyan gross domestic products (Yi), the variable represents the real gross domestic products in Libya over the period 1980-2014 with US $ Billion. The data for these variables is available on the World Bank data base.

The explanatory variables:

1) stock of labour (L_i)

This variable is an important variable which supposed to effect on the real gross domestic productsLibya. The date is available on Index Mundi, 2018 .Labor Force, from 1980-2014.

2) Stock Capital (K_i)

This variable which represents stock capita in Libya which is expected to have positive impact on the real gross domestic products Libya.The date is available on Index Mundi, 2018. Labor Force, from 1980-2011.

3) Libyan Oil Price (OP_i):

The variable represents also the oil price in Libya which also issupposed to affecton increasing the real gross domestic products Libya over the studying period. The date is available on Libyan annual statistics book various issues .

4) Number of population in Libya: Libyan gross domestic products (POP_i), the variable represents the number of population in Libya over the period 1980-2014. The data for these variables is available on the World Bank data base.

5) Political instability (D_{2011})

The variable is representing the political instability in Libya in year 2011, this variable will be presented as a dummy variable which take in year 2011 and zero otherwise.

The double-logarithmic form for the tourism demand function is the most recommend in previous empirical literature and easy for the interpretation of the coefficients through the demand elasticity. So, our econometric model for estimation has the following form:

$$\ln Y_i = \beta_0 + \beta_1 \ln L_i + \beta_2 \ln OP_i + \beta_3 \ln POP_i + \beta_4 \mathrm{D2011} + \varepsilon_{it} \qquad (2)$$

When ε_{it} is the error term, it must be serially uncorrelated with zero mean, and it has also to be uncorrelated with the dependent variable for all t.

THE EMPIRICAL RESULT

The equation (2) is estimated using the Ordinary Least Square (OLS) estimation method with respect to 5% critical value as following:

Table (1) Ordinary Least Square estimates

lnGDPit	Coefficients	Calculate value	P-value
lnLi	0.217698	1.38	0.178
lnCi	0.296927	2.06	**0.049***
lnOPi	0.272399	2.59	**0.015***
lnPOPi	0.597728	3.15	**0.004****
D2011	-0.61205	-2.32	**0.027***
constant	1.386754	5.81	**0.000*****
R-squared	0.8421		
F-test (5,29)	30.93		
Heteroscedasticity tests			
1) Breusch-Pagan test for heteroskedasticity		0.69	0.406
2) White's test for heteroscedasticity		13.68	0.5499
Autocorrelation tests			
1) Breusch-Godfrey LM test for autocorrelation lag (1)		8.06	0.0083
2) Breusch-Godfrey LM test for autocorrelation lag (2)		4.138	0.03
3) Durbin-Watson d-statistic for autocorrelation		1.04591	Dl = , Du=

Source : author's own calculation

Symbols *, **, *** indicate that the variable is significant at 1%, 5% and 10% significance level, respectively.
Although the ordinary least square estimators still unbiased and consistent in the presence of heteroscedasticity, the regression estimators are not best linear unbiased. Moreover, the OLS estimator are no longer efficient (Greene, 1993). The tests Breusch-Pagan test and White's test for heteroscedasticity indicate that there is no evidence to reject the null hypothesis that the residuals are homoscedastic at 1% significance level. In the same context, Breusch-Godfrey LM test for autocorrelation lag (1) shows that there is no serial correlation from the first- order with respect 1% critical value which is also confirmed by Durbin-Watson test for autocorrelation. Moreover, Breusch-Godfrey LM test for autocorrelation lag (2) indicates that there is no autocorrelation from the second-order at 1% significance level. Then, we can rely on the previous model for explaining the variation in the dependent variable (Libyan gross domestic products). At 0.05 significance level, we can test the significance of all model by using F-statistics(30.93) and to take decision we see related P-value for F- test, it tends to zero (0.000). That means, the model is statistically significant at 0.05 significance level. The R-square value show that the explanatory variables (stock of labour, Stock Capital, Libyan Oil Price, Number of population in Libya and dummy variable for the political instability) are interpreting 84 % of the variation of Libyan gross domestic products using the linear regression model using Ordinary Least Square method (OLS).
To test the significance for each parameter, we will use T-statistics, and related P-value for every parameter. If P-value is lower than 0.05, the parameter is statistically significant . In our model the significant variables are (Stock Capital, Libyan Oil Price, Number of population in Libya and dummy variable for the political instability). Means, these variables are contributed to explain the variation in Libyan gross domestic products.
At 5% significance level, we can say that 100% increasing in Stock Capital in Libya increases Libyan gross domestic products by 4.9 %. The results are consisting with the previous literature. For instance, (Liang Ping, Feng Mi and Chaun Min,2005) concluded that the Stock Capital is important variable which has contributed to explain the variation in the gross domestic products in china. Moreover, the Libyan Oil Price has positive impact on Libyan gross domestic products. The results are consisting with previous studies such as Burbidge, Harrison, (1984). Furthermore, Yahia and Metwally (2007)investigated the influence of the fluctuations in oil prices on Libyan economic growth. The authors found that the oil price has significant impact on the gross domestic products. In the same context, Inyiama and Ikechukwu (2015) found the significant relation between the Crude oil prices on the Nigerian gross domestic products over the studying period from 2009-2014. More importantly, thedummy variable for the political instability affects negatively on the stock market price. Means, Libyan gross domestic products decreased by 2.7 % in year 2011 because of the political instability in Libya. The log - log estimated model shows also that stock of labour does not have influence on the Libyan gross domestic products. This variable has a significant and valuable impact on each sector the Libyan economy. Means, each sector of the Libyan economic is influenced by the political instability in year 2011. The results show also that stock f labour does not have impact on the Libyan gross domestic products.

5. CONCLUSION

There is significant importance of estimating the determinants which affect the Libyan gross domestic products because increasing GDP results in an increased standard of living and a decrease the unemployment rate as well. We can conclude from the previous analysis that oil and gas sector has huge significance in Libya. The Libyan economy is massively relying on this sector. The Libyan petroleum sector has a significant part in the improvement and development of the country. The petroleum sector in Libya is the main source of income for Libya which represent an important and hug percentage of the Libyan gross domestic product. Because, this sector helps to decrease the unemployment rate in the country. It is examined from the research that oil and gas sector helped to decrease the unemployment more than 30 percentage in both productions between the years 2007 to 2011. The results shows that the variables Stock Capital, Libyan Oil Price, Number of population in Libya and dummy variable for the political instability have significant influence on the Libyan gross domestic product as 5% significance level.

Libyan government should increase its expenditure as apart from oil sector to build better infrastructure for the peoples of Libya and can be used also as tourism investment to enhance the tourism flows to Libyan destinations. It generates up to 90% of revenue for the government of Libya whereas around 95 percentage of export earnings are through selling of oil and gas. Moreover, oil and gas sector is contributing 80% of GDP in economy of Libya. Oil and the sector is a primary reason for foreign investment in the country. A lot of companies of oil and gas are intending to invest in Libya with the purpose of exploration and production of oil and gas.

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