



Economic diversification as a solution to overcome the economic and financial crisis in Angola

João Maria Chimpolo¹, Hermenegildo José Félix², Valdimiro Fernando Quitumbo³, Reginaldo Selénio de Sousa Alfredo⁴

¹ *Agostinho Neto University Faculty of Economics Department of Accounting.*

Article Info

Article History:

Published: 11 June 2026

Publication Issue:

Volume 3, Issue 6
June-2026

Page Number:

121-129

Corresponding Author:

João Maria Chimpolo

Abstract:

This paper analyzes the diversification of the Angolan economy as the solution to the economic and financial crisis that plagues the country with the greatest intensity as of the second half of 2014 and takes stock of the evolution of the Angolan economy during the period (2002- 2016). In this sense, it made a diagnosis of the main imbalances that this economy registered during the period under analysis and found that the most difficult moments of the Angolan economy coincide with the periods of adverse conjuncture provoked by the sharp drop in the price of oil in the international markets. To support this observation, in addition to the analysis of the evolution of the main macroeconomic indicators during the period under analysis, through tables and graphs, clearly showing that many of these imbalances were caused by the long years of civil war and inadequate implementation of some measures of economic policy. We also used several statistical techniques, with emphasis on the multiple regression model, which allowed us to gauge the degree of correlation between the variables analyzed.

Keywords: Economic Growth, GDP, Diversification, Economic Policies

1. INTRODUCTION

The dynamics of the Angolan economy are essentially sustained by the exploitation of natural resources, which also determine the country's policies, such that Angola is an extractive economy and extremely dependent on oil. Although an improvement in social conditions has been noted since 2002 after the achievement of peace, the country still presents several macroeconomic imbalances reflected in high poverty rates, unemployment, social inequality, and others. Combating these problems should be a priority, with economic diversification being the strategy that will allow for the diversification of state revenue sources and make the country potentially stronger. Angola, being a country rich in minerals, faces a dilemma in its economic development. The oil sector continues to be the main source of revenue, so several factors have encouraged the government to seek investments in new productive sectors that can diversify the economy and make Angola less vulnerable to fluctuations in the international market, as well as capable of promoting sustainable growth that leads to development based on a diversified economy. Angola's high expectations demand that the economy be leveraged with higher value-added products and a more diversified set of exports, in order to reduce the heavy dependence on the oil sector and increase investments in non-oil sectors such as agriculture, fisheries, manufacturing industries, commercial services, among others, but this will only become a reality if an appropriate set of macroeconomic incentives is made available, capable of promoting the national production of tradable goods and promoting and strengthening exports to diversify the country's sources of foreign exchange. The objective of this work is to analyze economic diversification as an objective of macroeconomic policy.

2- METHODOLOGY ANALYSIS OF THE ECONOMIC SITUATION IN ANGOLA

Supply-Side Inflation For many years, this aspect was unknown and considered unrealistic, as inflation was more prevalent through demand or excess money supply, with no supply shocks recorded for many years that would justify the continuous and generalized growth of prices. In recent decades, it has become noticeable that certain unionist behavior, which promoted wage increases and subsequently led to sharp shocks in the prices of raw materials in international markets, has come to be considered as an effect of increased production costs on prices, thus creating the need for their control and monitoring in order to contain new inflationary pressures.

2.1- ANALYSIS OF GROWTH AND ECONOMIC DIVERSIFICATION

Economic diversification is used as one of the most important instruments of macroeconomic policy by countries seeking alternative sources of revenue, with a view to boosting their economies and being less prone to risks resulting from external shocks. The diversification of the national economy is irreversible, considering the collapse of the price of oil in the international market that began in June 2014, when the barrel was traded at 113 US dollars, allowing the 2015 General Economic Budget (O.G.E.) to be fixed at a reference price of 80 US dollars per barrel. This collapse persisted until January 2015, when the price of oil fell to 46 US dollars per barrel, thus causing a decrease in the country's foreign exchange reserves and, consequently, pressure on foreign exchange reserves due to national imports. There was also resentment regarding the level of activity in the non-oil sector and consequently in employment, given the existing correlation between the two sectors of the economy (oil and non-oil). Therefore, increasing non-oil revenues and, at this critical stage, stabilizing the general price level are priorities. National businesses must assume a prominent and highly relevant role in the process of diversifying the national economy. They should have privileged access to production chains and other financial and credit facilities so that a market economy can be achieved among national businesses. For an increasingly diversified economy with short-term results, it is fundamental to create increasingly inclusive political and economic institutions, and to establish priority clusters based on a mutually beneficial relationship between the State, national and international businesses. This should encompass the sectors of energy and water, agriculture, fisheries, food and livestock, housing, transport and logistics, extractive activities, oil and natural gas, tourism, leisure and other services. Therefore, the creation of these clusters will, in a way, contribute to increasing domestic production; reducing national dependence on imports; strengthening national entrepreneurship; promoting job creation and diversifying sources of tax revenue and foreign exchange. The process of diversifying the economy is extremely important because it allows for economic growth and economic and social development of the country, and it is one of the main objectives of the Angolan executive.

The Benefits of Economic Diversification

As is known, all economic activity is always guided by the minimization of costs and maximization of profits. Therefore, the process of economic diversification, although its results are obtained in the medium and long term, is not exempt from the basic assumptions of economic activity (minimizing costs to maximize profits). Therefore, it is indeed possible to derive some benefits from the process of diversifying the national economy: To this end, the following question arises, "How can we obtain the benefits of diversifying the national economy?" To answer this question, I would first like to make an economic analysis of the twin terms of international trade, which are exports and imports. Exports mean the set of goods and services that are produced in one country and sold to another country. They include trade in goods (such as automobiles), services (such as transportation), and interest on loans and investments. Imports are simply flows in the reverse direction – directed to a country and coming from other countries. Exports and imports are part of net exports, which in the calculation of national product represents the value of exports of goods and services minus imports of goods and services. A country that consumes goods and services mainly from imports is a country that produces less and contributes directly to the net exports of the exporting country in a positive way, giving the exporting country more money and, with this money, the capacity to increase its level of production. The increase in the overall level of production will necessarily imply more machines operating, more labor being utilized, thus contributing to the resolution of some macroeconomic variables, such as unemployment and inflation. Meanwhile, for the importing country, this would create an imbalance in its trade balance. Analyzing a hypothetical example of two economies aiming to solve the problem of unemployment, one being an importer and the other an exporter, as shown in Table 1:

The Influence of Interest Rates on the Diversification Process of the National Economy

The interest rate is the instrument used by the central bank to keep inflation under control. If interest rates fall too much, the population has access to credit and consumes more. This increase in demand can put pressure on prices if the industry is not prepared to meet this higher consumption. On the other hand, if interest rates rise, the monetary authority inhibits consumption and investments become more costly, the economy slows down, and price increases are prevented, that is, inflation is avoided. The interest rate has a great influence on the economy, because it is through it that investment managers, among other agents, signal when applying investments in a particular sector or country. Regarding high interest rates: High interest rates mean likely low growth due to capital flight and lower consumption levels, because high interest rates discourage credit. Regarding low interest rates: Low interest rates mean likely high GDP growth, due to a positive scenario for attracting foreign and domestic investment. This stimulates credit and consumption, consequently stimulating production and demand for products as well.

3. RESULTS AND DISCUSSION

To analyze the performance of the Angolan economy during the period under analysis, and taking into account the available data, we used a multiple linear correlation model. To this end, we carried out a thorough analysis of the variables under study, illustrating them graphically with the help of Gretl, in order to observe the isolated behavior of each variable and aggregate them to create a real picture of how they impacted the growth rate of the gross domestic product during the period under analysis.

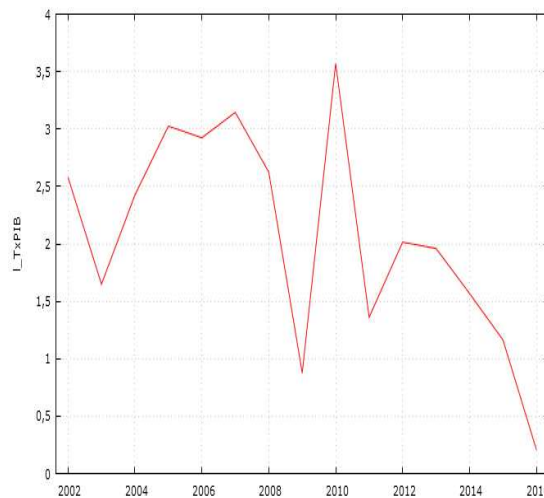
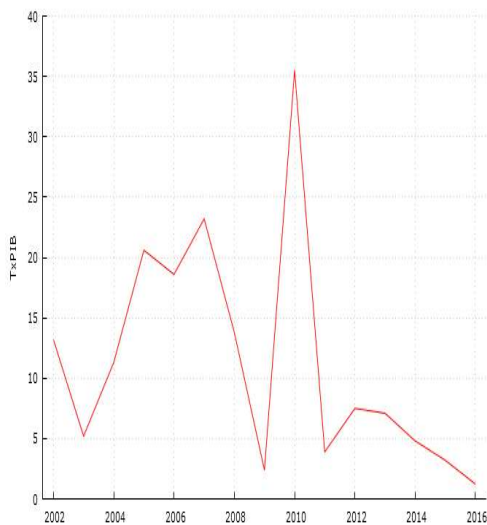


Fig.1: GDP growth rate

Fig.2: Logarithmic GDP growth rate

De acordo a Figura 1, o comportamento da taxa de variação do PIB, demonstrou-se instável no período, facto este, influenciado pelas variações cíclicas durante o período de 2002-2016. Foi necessário demonstrar o abrandamento da taxa de variação do PIB, para confirmar a instabilidade provocada pelo ciclo ilustrado no período em análise tal como afigura a Figura 2.

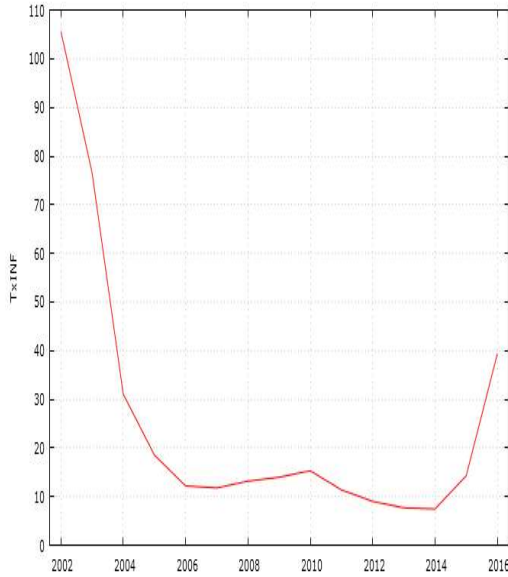


Fig. 3: Inflation Rate

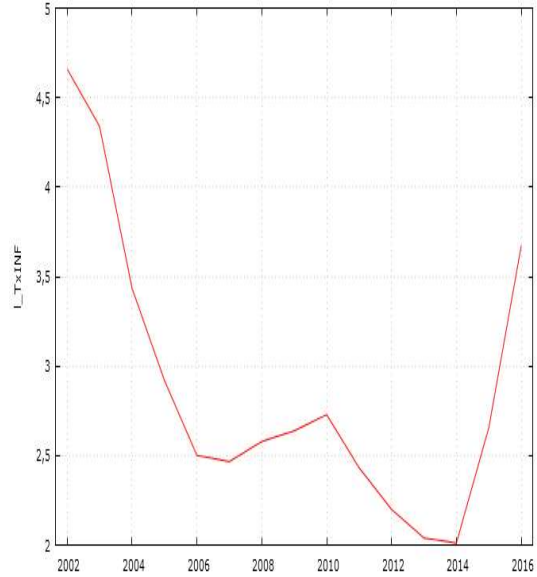


Fig.4: Logarithmic Inflation Rate

The inflation rate showed a downward trend until approximately 2014. After the collapse of the price of a barrel of oil on the international market in the 4th quarter of 2014 and the reduction of international net reserves, the general price level began to witness an upward trajectory and continues to reach 46% in 2016, a level not seen in a decade. This scenario is a consequence of the declaration of the economic and financial crisis in the country that began in the 4th quarter of 2014. Despite the slowdown shown in Figure 3, the diagram shows how much the inflation rate decreased from 2002 to 2014 and began to increase in 2014 until the end of the study period.

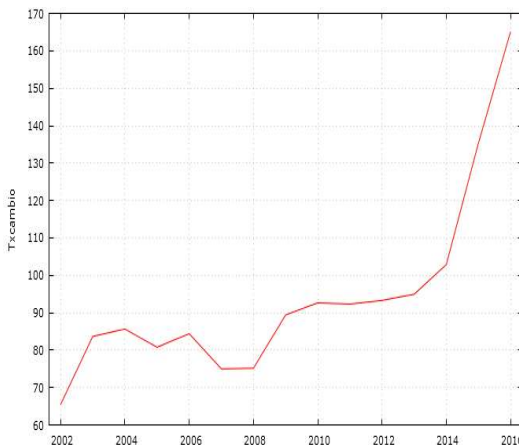


Fig.5: Exchange Rate

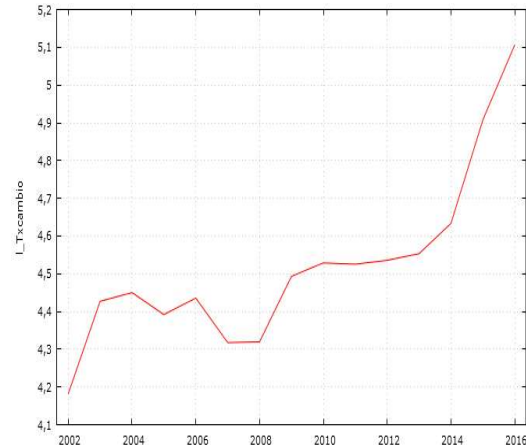


Fig.6: Logarithmic Exchange Rate

Figure 5 confirms the increasing and trending behavior of the exchange rate depreciation in the Angolan economy from 2002 to 2016, showing some slight stability between 2007 and 2008. The slowed behavior (Figure 6) of the time series in question is confirmed by the increasing trend of the exchange rate during the period under study.

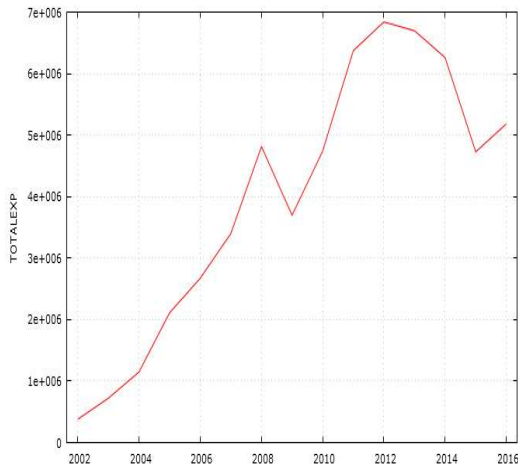


Fig.7: Total Exports

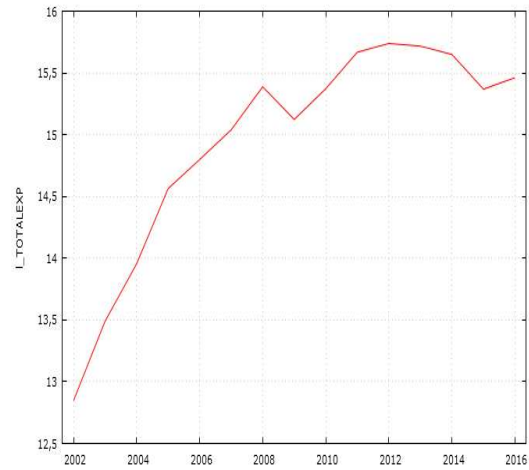


Fig.8: Logarithmized Total Exports

By viewing Figure 7, we can see that Angolan exports (with the oil sector being the most relevant) maintained a growing and trending trajectory from 2002 to 2016, with some structural breaks in the periods of 2008-2009 and mid-2012 to 2014, respectively, as a result of the crises experienced in those periods. The slowdown observed in Figure 8 allowed us to smooth out the trendily increasing behavior of Angolan exports.

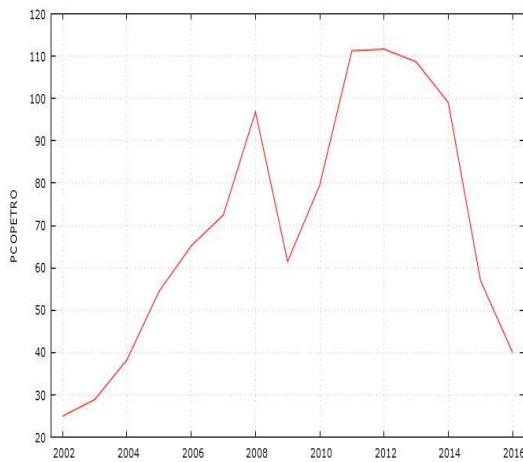


Fig.9: Price per barrel of oil

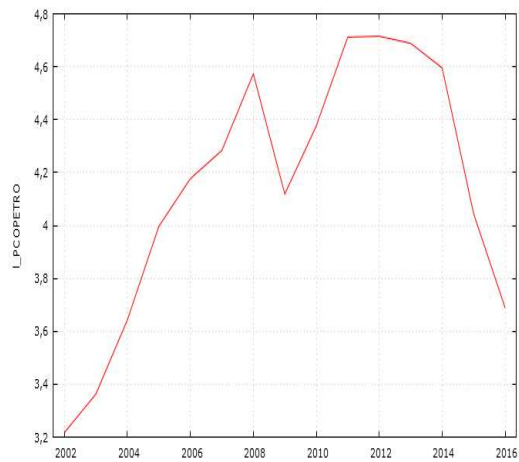


Fig.10: Logarithmized price per barrel of oil

The price per barrel of Angolan oil shows an upward trend in two substantially different periods, 2002-2008 and 2010-2013, a fact that confirms the trajectory of exports shown in Figures 7 and 8 previously presented. A sharp drop in oil barrel prices is observed in 2008-2009, followed by a recession initially seen in 2013, which intensified significantly until 2016 compared to the same periods, respectively. This explains the standard behavior illustrated in Figure 9. The slowdown confirms the analysis performed in Figure 10.

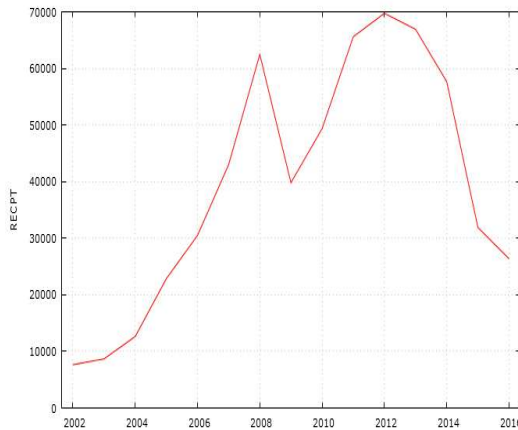


Fig.11: Oil Revenues

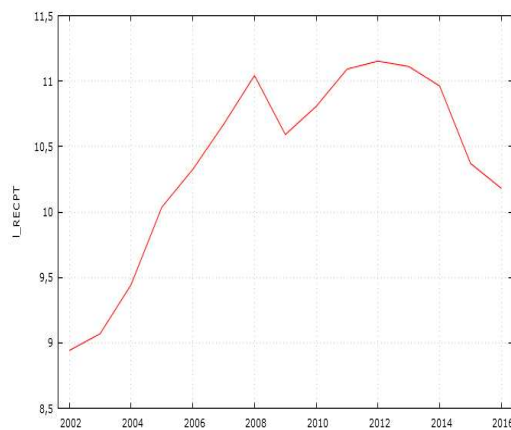


Fig.12: Logarithmized

Oil Revenues Oil revenues are a reflection of the behavior of the price of a barrel of oil, with generally increasing trajectories and sharp drops in two different periods, respectively, as shown in Figure 11. When attempting to mitigate this behavior (Figure 12), a confirmation of the previously studied increasing and biased trajectory is observed.

Table 1 - Analysis of the correlation of the variables under study

Variables	l_Txpib	l_Txinfl	l_Txcâmb	l_Totalexpo	l_Preçpetrol	l_Recpetrol
l_Txpib	1	-0,0704	-0,7072	-0,2477	0,0850	-0,0374
l_Txinfl	-0,0704	1	-0,1402	-0,8636	-0,9380	-0,9202
l_Txcâmb	-0,7072	-0,1402	1	0,5147	0,0641	0,2173
l_Totalexpo	-0,2477	-0,8636	0,5147	1	0,8718	0,9453
l_Preçpetrol	0,0850	-0,9380	0,0641	0,8718	1	0,9700
l_Recpetrol	-0,0374	-0,9202	0,2173	0,9453	0,9700	1

5% Critical value (two-sided) = 0.5140 for n = 15

Table 1 shows a weak negative correlation between the logarithm of the GDP growth rate and the logarithm of the inflation rate, total exports, and the logarithm of oil revenues; indicating that the decreasing trajectory of the logarithm of the GDP growth rate is a result of the increase in percentage points of the logarithm of the inflation rate and the decrease in the logarithm of total exports observed since mid-2014, and, concomitantly, the decrease in the logarithm of oil revenues. This situation is also observed for the variables of the logarithm of the exchange rate and the inflation rate, with a correlation of -14%, thus suggesting that the depreciation of the Kwana against the USD contributes to the reduction of the inflationary bias observed during the period. Table 5 also shows that the logarithm of the price of oil responds positively to the logarithm of the GDP growth rate and the logarithm of the exchange rate, although weakly, as well as to the logarithm of oil revenues and the logarithm of the exchange rate. It is understood that the weak participation of the logarithm of the exchange rate stems from the low logarithm of oil exports, thus depleting the BNA's international net reserves. Furthermore, from observing Table 5, it can be seen that there is a strong negative correlation between the logarithm of total exports, the price of oil; oil revenues with the logarithm of the inflation rate; and the logarithm of the exchange rate with the logarithm of the GDP growth rate. It is verifiable through the results that the strong dependence on oil exports, oil revenues and the increasing variations in the price of oil in the international market have led to an uncomfortable situation for the Angolan economy. This fact explains the strong correlation observed in the logarithm of total exports with the logarithm of the exchange rate, the price of oil, and the logarithm of oil revenues, in the order of 51.47%, 87.18%, and 94.53%, respectively. Similarly, the correlation

between the logarithm of oil revenues and the logarithm of the price of oil is strong and positive, at 97%. Table 6 shows the mean, median, minimum, and maximum values of the variables studied.

Table 2 - Descriptive Statistics of the Variables studied

Variable	Mean	Median	Minimum	Maximum
Txpib ¹	11,435	7,5000	1,2309	35,500
Txinfl	25,827	13,990	7,4800	105,59
Txcâmb	94,401	89,398	65,475	165,10
Totalexpo ²	3983800	4726800	379840	6838700
Preçpetrol	69,973	65,150	24,960	111,65
Recpetrol ³	39668	39803	7644,1	69716

From the analysis of Table 2, it is highlighted that the minimum and maximum values of the GDP growth rate between 2002 and 2016 were approximately 1.23% and 35.5 billion Kwanzas, respectively. Furthermore, the value dividing the GDP growth rate distribution into two equal parts was 7.50%, and the average observed value was 11.43 billion Kwanzas, with a 95% reliable variability of approximately 0.83914. Regarding the inflation rate in Angola, the minimum and maximum values observed in the aforementioned period were around 7.48% and 105.59%, respectively, with the value dividing this economic indicator into two equal parts being 13.99%, thus resulting in an average value of 25.83% with a 95% reliable variability of approximately 1.0993. Regarding the exchange rate, the minimum and maximum values recorded were 65.475 and 165.10 AOA/USD, respectively. Meanwhile, 89.398 monetary units represent the value that divides this indicator into two equal parts, with an average of approximately 94.401 AOA/USD. The variability in the exchange rate behavior around 94.401 AOA/USD was 95% reliable at approximately 0.26614. Concerning total exports, the minimum and maximum values observed during the period under analysis were approximately 379.840 and 6,838.700 billion USD, while the median was 4,726.800 billion USD and the representative value was approximately 3,983.800 billion USD. The variability in the behavior of total exports, around 3,983,800, was found to have a 95% reliability of approximately 0.54891. Regarding the price of oil on the international market, the minimum and maximum values observed during the period were US\$24.960 and US\$111.65/barrel, respectively, while the value dividing it into two equal parts was around US\$65.150/barrel, with an average of US\$69.973/barrel. The variability in the behavior of the oil price around 69.973 was 95% reliable with an approximate reliability of approximately 0.43085. Regarding oil revenues, the minimum and maximum values observed in the aforementioned period were around USD 7,644.1 billion and USD 69,716 billion, respectively. The value dividing this indicator into two equal parts was USD 39,803 billion, thus resulting in an average value of USD 39,668 billion. Finally, the variability in the behavior of oil revenues around USD 39,668 billion was 95% reliable, with a confidence level of approximately 0.54676.

Table 3 - Representation of the estimation model, using observations from 2002-2016 (T = 15) Dependent variable: l_Txpib

	Coefficient	Standard Error	ratio-t	p-value	
const	20,5743	5,93979	3,464	0,0071	***
l_TxINF	-0,282590	0,712819	-0,3964	0,7010	

l_Txchange	-5,43149	1,32244	-4,107	0,0026	***
l_TOTALEXP	2,02014	1,12089	1,802	0,1050	
l_PCOPETRO	0,0177383	2,80506	0,006324	0,9951	
l_RECPT	-2,25278	2,08188	-1,082	0,3074	
R-squared	0,556309		Adjusted R-squared	0,309814	
F(5, 9)	46,59567		valor P(F)	0,00365	
Durbin-Watson	3,067139				

The estimated model above (eq. 5.1) shows how the logarithm of the inflation rate, exchange rate, total exports, oil price, and the logarithm of oil revenues explained the variations observed in the logarithm of the GDP growth rate, and the regression line fits the data during the period under analysis in Angola. The data indicate that the model captures approximately 56% of the information from the logarithm of the GDP growth rate in Angola, that is, almost 56% of the variations found in the logarithm of the GDP growth rate were explained by the variations in the logarithm of the inflation rate, exchange rate, total exports, oil price, and the logarithm of oil revenues. In isolation, only the estimator of the logarithm of the exchange rate appears to have statistical significance at all recommended levels (1%, 5%, and 10%). For a simultaneous analysis, the model through its estimators, shows the existence of statistical significance at the 1%, 5% and 10% levels with five (5) degrees of freedom in the numerator and nine (9) in the denominator and an absence of negative serial correlation (which suggests being close to the indecision zone, i.e., the parameters of the residual are not negatively associated) with the presentation of independence in the estimation errors. The elasticity of the GDP growth rate with respect to the inflation rate was approximately -0.28%, suggesting that when the inflation rate increases by 1% (ceteris paribus) the GDP growth rate decreases by approximately -0.28%, on average. Based on Equation (5.1) we see that the elasticities of the GDP growth rate with respect to the exchange rate and total exports were -5.43% and 2.02%, respectively. In other words, during the 15 years observed in the Angolan economy, keeping total exports constant, a 1% increase in the exchange rate led, on average, to a reduction of approximately -5.43% in the GDP growth rate. Similarly, keeping the exchange rate constant, a 1% increase in total exports led, on average, to a 2.02% increase in the GDP growth rate. The elasticity of the GDP growth rate with respect to the price of oil and oil revenues was 0.02% and -2.25%, respectively. It appears that, keeping oil revenues constant, a 1% increase in the price of oil led, on average, to a 0.02% increase in the GDP growth rate. Similarly, keeping the price of oil constant, a 1% increase in oil revenues led, on average, to a reduction of -2.25%, respectively. In conclusion, Angola's GDP growth rate between 2002 and 2016 proved to be highly sensitive to variations in inflation, exchange rates, and oil revenues, and responded positively, although not significantly, to variations in total exports and the price of a barrel of oil. The results obtained confirmed that it is necessary to reduce dependence on the oil sector and diversify the economy to resume growth as an essential strategy for overcoming the economic crisis.

4. CONCLUSIONS

In summary, we can highlight the following conclusions: By implementing the process of economic diversification, the government is achieving its macroeconomic policy objectives such as: increasing production, promoting employment, stabilizing prices, maintaining the inflation rate at acceptable levels to ensure economic growth, etc. Angola's economy grew by 0.1% in 2016. However, GDP growth of 1.1% is expected in 2017, and 4.9% in 2018, due to the current situation regarding oil prices in the international market, resulting from the production cut agreement signed in November 2016 between oil-producing and non-oil-producing countries, which has allowed a slight recovery in prices that will have repercussions on the growth expectations projected for 2017 and 2018. Angola needs to increase investment in human capital, seek diversification, and reduce the vulnerability of its economy in order to join the group of middle-income countries in 2021. The development of local industries and the strengthening of entrepreneurial capacities are crucial to accelerating economic recovery and promoting inclusive growth.

References

1. Angola, Governo; Plano Nacional de Desenvolvimento, 2013 – 2017.
2. Abel, Andrew B. Bernanke, Ben S., et al. *Macroeconomia*. 6.^a Edição. Editora Pearson Addison Wesley, 2008. São Paulo.
3. Abreu, Margarida e Escaria, Victor; *Economia Monetária e Financeira*; 2.^a Edição, Revista e actualizada; Escolar editora; Lisboa;2012.
4. Blanchard, Oliveira. *Macroeconomia*. Tradução; Lucinda de Amaral Teixeira 5.^a edição. São Paulo; Pearson Preterre Hall, 2011.
5. Costa, Paulo, *Economia e Gestão*, Lisboa, Nova Editora.
6. Dornbush, Rudiger; HELMERS, F. Leslie, *Economia Aberta*, Lisboa, Fundação Calouste Gulbenkian Editora, 1991.
7. DA Rocha, Manuel José Alves – *Finanças Públicas*. Angola: Universidade Católica de Angola, 2006.
8. M. Mendes de Oliveira, Luís Delfim Santos e Natércia Fortuna. *Econometria*; 1.^a Edição, Escolar Editora, 2011.
9. Filipe, Valter. *O Banco Nacional de Angola e a crise Financeira*. Editora MAYAMBA Economia.
10. Ferreira, A. B. H. *Novo Dicionário da Língua Portuguesa*. 2.^a Edição. Rio de Janeiro. Nova Fronteira. 1986. p. 227.
11. Ferreira, Coxe, *Fiscalidade Angolana*, Luanda, Instituto Piaget Editora, 2012.
12. Krugman, Paul. *Crises Monetárias*. Tradução técnica Nelson Carvalheiro. São Paulo, Makron BOOKS, 2001.
13. Kugman, Paul. Obstfeld, Maurice, *Economia Internacional: Teoria e Políticas*. Revisão técnica: Rogerio Mori; Paulo Galar; (Tradução Elieza Martins Diniz). 8.^a Edição. São Paulo: Pearson Preentice Hall, 2010.
14. Lopes, Luís Martins; Vasconcellos, Marcos António Sandoval, *Manual de Macroeconomia Básico e Intermédio*, 2.^a ed., São Paulo, Atlas Ed., 2000.
15. Maia, Redento; *Privatização da Industria de Angola – Vantagens e Riscos*; 2.^a edição, Revista; Luanda; 1998.
16. Ministério do Planeamento de Angola; *Monografia de Angola 2008*; Luanda 2009.
17. Mankiw, N. Gregory; *Introdução à Economia*; Editora Campus. Lda; 2.^a Edição; Rio de Janeiro; 1999.
18. Mishkin, Friedrich; *Moeda, Bancos e Mercados Financeiros*; 5.^a edição; Livros Técnico e Científicos, Editora S. A; 2000.
19. Keynes, John Maynard, *Teoria Geral do Emprego, do Juro e do Dinheiro*, 1936.
20. Montella, Maura, *Economia Passo a Passo*, ed., Rio de Janeiro, Qualitymark Ed., 2004.
21. Mishkin, Frederic S., *Moedas, Bancos e Mercados Financeiros*, 5.^a Ed., Londres, LTC. Ed.
22. Previdello, Adhemar; Dutra, Ivan, *Elementos de Economia*, São Paulo, Javoli-Bauru Ed.
23. Smith, Adam, *A Riqueza das Nações*, 1996.
24. Stigum, Robert P.; Stigum, Márcia L. *Economia*, 2.^a ed., São Paulo, Edgarde Blucher Ltda., 1973.
25. Sousa, Domingos Pereira de, *Finanças Públicas*, I.S.C.S.P. Lisboa, 1992.
26. Samuelson, Paul A.; Nordhaus, William D., *Economia* 19.^a Ed. Portugal, AMGH Ltda. Ed., 2012.
27. Vasconcellos, Marcos António Sandoval, *Manual de Macroeconomia*, 2.^a ed., São Paulo, Atlas S. A. Ed., 2000.
28. Vunge, Fernando Francisco. *Angola-Desenvolvimento e Sector Externo: Proposta de Políticas para Corecção dos Desequilíbrios*. Colibri Editora. Portugal.