Testing the resource curse hypothesis : evidence from Republic of the Congo over the period of 1974-2015 by using ARDL approach

إختبار فرضية لعنة الموارد : دراسة تجريبية على جمهورية الكونغو خلال الفترة 1974 –2015 باستخدام منهجية الانحدار الذاتي للفجوات الزمنية الموزعة

Djellouli Nassima[1], Abdelli Latifa [2]

[1] University of saida; Algeria/ STRATEV laboratory nassima.djellouli@univ-saida.dz

[2] University of Saida ; Algeria, latifa.abdelli@univ-saida.dz

Received: 30/05/2020 **Accepted: 12/09/2020** **Published:14/11/2020**

Abstract:

In this study, we empirically examined the effect of natural resource abundance on economic growth for Republic of the Congo for the period 1974-2015 by using ARDL approach in order to test the resource curse hypothesis, the findings of this research suggest that the natural resource did not enhance economic growth, and instead of contributing positively on growth, it affects him negatively. Furthermore, we find that financial development exerts a negative and significant impact on economic growth in the short-run. The impact of exports on economic growth is positive and statistically significant at 1% level of signification in long-run as well as in short-run.

Keywords: natural resource; economic growth; resource curse hypothesis; Republic of the Congo; ARDL approach.

JEL Classification Codes: O40, Q34,C5

ملخص: نهدف من خلال هده الورقة إلى دراسة تأثير وفرة الموارد الطبيعية على النمو الاقتصادي في حالة جمهورية الكونغو خلال الفترة 1974 – 2015 باستخدام منهجية الفجوات الزمنية الموزعة، بهدف اختبار فرضية لعنة الموارد، و أوضحت النتائج أن الموارد الطبيعية بالدولة محل الدراسة تؤثر سلبيا على نموها الاقتصادي، كما أشارت النتائج أن التطور المالي يؤثر سلبيا على النمو الاقتصادي في المدى القصير، بينما تؤثر الصادرات على النمو الاقتصادي إيجابيا على المدى القصير و البعيد.

[1] ***corresponding author***: *djellouli nassima,* ***e-mail***: dje_nassima@yahoo.fr

كلمات مفتاحية: الموارد الطبيعية، النمو الاقتصادي، فرضية لعنة الموارد، جمهورية الكونغو، منهجية الفجوات الزمنية الموزعة.

تصنيفات JEL : O40، Q34، C5

1. Introduction :

In the last few decades, the economic literature focused on the resources abundance and economic growth nexus, this relationship is called in the literature by resource curse in which the countries do not benefit from their natural resources in promoting economic growth. The resource curse is used to describe incapacity of resource- rich countries to profit from their natural wealth (Humphreys, Sachs, & Stiglitz, 2007, p. xi). According to this phenomenon, the countries rich in different wealth, those with oil, natural gas, coal or other non-renewable resources, tend to grow more slowly than countries with fewer such resources (Marques & Pires, 2019, p. 01). (Shahbaz, Ahmed, & Tiwari, 2019, p. 01) mentioned that the resource curse is also recognized as the paradox of plenty, it refers that countries rich in natural wealth , tend to have fewer economic growth rate , low democracy, and low development than those with fewer natural resources.

The debate on whether natural resources impede economic growth has emerged among academic researchers, and the hypotheses of the negative impact of natural resources wealth on economic growth have been widely discussed and have proven by most of them. For example, (Sachs & Warner, 1995, p. 02) show that economies with a high ratio of natural resource exports in GDP tended to have low growth rates. (Hilmawan & Clark, 2019, p. 01) noticed that many resource abundance nations located primarily in Africa, the Middle East, and Latin America, have tended to have low-income levels, unstable growth, and generally worse performance on broader development indicators when compared to resource-scarce countries elsewhere.

The purpose of this study is to answer the key question : Does the natural resources curse exist in Republic of the Congo ?

The rest of paper is organised as follows, the second section presents a literature review of the empirical past studies on the growth-natural resources nexus, the third section introduces the autoregressive distributed lag methodology and describes the variables and data sources, the fourth section discusses the empirical outcomes . Finally, the fifth section concludes the paper and proposes some policy implications.

2. Literature review:

(Mehrara, 2009) examined the threshold effects in the relationship among output growth and oil revenues in oil-exporting countries, by applying panel regressions on data ranging from 1965 to 2005, the results suggest the existence of a threshold beyond which oil revenues exerts a negative impact effect on economic growth. (Satti, Farooq, Loganathan, & Shahbaz, 2014) investigate the relationship between resource abundance and economic growth for Venezuela by applying the ARDL model for the period of 1971-2011, the findings provide an evidence that natural resource abundance hinders economic growth. (Ahmed, Mahalik, & Shahbaz, 2016) have tested the hypothesis of resource curse by using data of Iran spanning from 1965 to 2011, the findings from the long-run estimate affirm the resource curse and suggest that the natural resource reliance did not spur economic growth in Iran. Based on panel vector autoregressive approach, (Antonakakis, Cunado, Filis, & Perez de Gracia, 2017) examined the resource curse Hypothesis by using data of 76 countries classified by different income over the period 1980-2012, the findings affirm that the resource abundance did not enhance growth, and they conclude that the resource curse is documented mainly in the economies that characterised by weak political institutions.

However, (Wu, Li, & Li, 2018) have differentiated amid natural resource abundance and natural resource-oriented industry dependence, they indicated that the former refers to how much natural resources a country that have and the later refers to the degree of dependence of a country on natural resources industries, this study have tested two hypothesis, the first one is whether the natural resources abundance is beneficial or harmful for economic growth, and the second one is whether the natural resource-oriented industry dependence will result in the natural

resource curse, the two hypothesis was tested by using data spanning from 1997 to 2015 for 30 China provinces, the findings of panel regression show that having an abundance natural resources is beneficial for economic growth while the natural resource-oriented industry dependence will lead to natural resource curse. Whereas, (Wang, Zameer, Feng, Jiao, Xu, & Gedikli, 2019) verified whether there is a resource curse hypothesis in China by using spatial measurement models and provincial panel data spans from 2005 to 2018, empirical findings show the existence of resource curse hypothesis. Similarly, (Shahbaz, Ahmed, & Tiwari, 2019) employ the bound testing approach on data of USA raging from 1976 to 2016, the empirical results validate the negative association amid resource abundance and economic growth. (Olayungbo, 2019) examine the impact of natural resource revenue proxies by oil revenue on economic growth of Nigeria by adopting Bayesian time-varying parameter on data spanning

from 1970-2015 to verify resource curse phenomenon, the results provide evidence of resource curse in Nigeria with presence of low level of labor utilization and trade deficit.

In the other studies, The resource curse hypothesis was not proven in the Arab Gulf Cooperation Council (GCC) countries on the long-run as well as in the short-run in (Mohamed, 2018) study, this result is confirmed by both of Fully Modified Least Squares (FMOLS) and Dynamic Least Squares (DOLS) methods on data spans from 2002 to 2012. In other study and based on panel data for 30 typical coal-mining cities over the period 2000-2015, (Qian, Wang, Wang, & Chen, 2019) have analyzed the existence of resource curse by applying the system generalized method of moments (SYS-GMM), the findings indicate that in the whole sample period, there is a resource curse effect, while this effect is not significant in the sub-sample period from 2011 to 2015. (Hilmawan & Clark, 2019) explored the effect of reliance on natural resources on growth by using annual fixed effects and first differenced regression with and without various instruments on data between 2006 and 2015 for 390 districts from Indonesia; the results reveal no evidence of a resource curse.

In the same context, other studies argued the positive effect of natural resource on economic growth via institutional quality, for example, (Abdulahi, Shu, & Khan, 2019) have revisited the non-linear association among natural dependence and growth by using panel threshold model on data covering the period from 1998 to 2016 for 14 resource rich countries of Sub-Sahara Africa (SSA),the study investigate whether there is an asymmetric threshold effect of institutional quality on the relationship of resource rent and economic growth or not, the findings indicate a positive relationship between resource rent and economic growth when institutional quality of the countries is above the threshold level, however, below the threshold level, the resource rent start to impede economic growth, and thus, the disappearance of resource curse is deduced with better quality of institution. In the same vein, (Henry, 2019) suggest that the impact of natural resource on economic growth is negative, regardless the level of institution and the countries with weak quality of institution are more vulnerable by studying 21 countries of Sub-Saharan Africa and using on the data ranging from 1970 to 2014.

3. Methodology and data collection:

The present study debates the long run link among natural resource and economic growth in (Satti, Farooq, Loganathan, & Shahbaz, 2014) framework, and other macroeconomic variables (determinants of economic growth) such as: financial development and exports for Congo.Reb economy using the ARDL bounds testing approach developed by (Pesaran, Shin, & Smith, 2001) over the period of 1974-2015, the ARDL model that we use allow us to obtain both the short-run and long-run impacts, the model of this study is formulated based on (Satti, Farooq, Loganathan, & Shahbaz, 2014) as follows:

$$\ln Y_t = \beta_1 + \beta_2 + \beta_3 \ln R_t + \beta_4 \ln F_t + \beta_5 \ln E_t + \mu_i$$

Where, $\ln Y_t$, $\ln R_t$, $\ln F_t$, $\ln E_t$ are a natural log of real GDP per capita, natural resource abundance proxies by per capita total natural resource rents, financial development proxies by per capita domestic credit to private sector by banks, and exports proxies by per capita exports of goods and

services. Data were extracted from World Bank's World development Indicators.

We choose ARDL bounds testing approach to test the cointegration between all the variables under study than other cointegration methodology test such as (Engle & Granger, 1987); (Johansen S. , 1988) (Johansen, 1991), (Johansen, A Statistical Analysis of Cointegration for I(2) Variables, 1995), or single equation methods such as Fully Modified OLS; Dynamic OLS, because it has various econometric advantages in comparison to other techniques, we can summarize these advantages as follows: (i) the order of integration of the series does not matter for applying the ARDL bounds testing if no variable is found to be stationary at I(2), this implies that it can be used whether variables are purely I(0), purely I(1) or mixture of both I(0) and I(1), but other traditional methods require prior knowledge and specification of which variables are I(0) and which are I(1); (ii) it provides better results in the case of small sample;(iii) it provides efficient estimates in the presence of endogeneity problems; (iiii) a dynamic error correction model (ECM) is computed from ARDL specification via a simple linear transformation. Using (OLS) estimation, the unrestricted error correction model (UECM) was specified as follows:

$$\ln Y_t = \alpha_0 + \alpha_1 t + \sum_{t=1}^{p} \alpha_{2i} \ln Y_{t-i} + \sum_{i=0}^{q_1} \alpha_{3i} \ln R_{t-i} + \sum_{i=0}^{q_2} \alpha_{4i} \ln F_{t-i} + \sum_{i=0}^{q_3} \alpha_{5i} \ln E_{t-i} + \varepsilon_t \dots Eq.1$$

$$\Delta \ln Y_t = \alpha_0 + \alpha_1 \Delta t + \sum_{t=1}^{p-1} \gamma_{0i} \Delta \ln Y_{t-i} + \sum_{i=0}^{q_1-1} \gamma_{1i} \Delta \ln R_{t-i} + \sum_{i=0}^{q_2-2} \gamma_{2i} \Delta \ln F_{t-i} + \sum_{i=0}^{q_3-3} \gamma_{3i} \Delta \ln E_{t-i} + \rho_1 \ln Y_{t-1} + \rho_2 \ln R_{t-1} + \rho_3 \ln F_{t-1} + \rho_4 \ln E_{t-1} + \varepsilon_t \dots Eq.2$$

$$\Delta \ln Y_t = \sum_{t=1}^{p-1} \gamma_{0i} \Delta \ln Y_{t-i} + \sum_{i=0}^{q_1-1} \gamma_{1i} \Delta \ln R_{t-i} + \sum_{i=0}^{q_2-2} \gamma_{2i} \Delta \ln F_{t-i} + \sum_{i=0}^{q_3-3} \gamma_{3i} \Delta \ln E_{t-i} - \varphi ECT_{t-1} + \varepsilon_t \dots Eq.3$$

Where Δ is the differenced operator, ε_t is residual term in period t, $\gamma_{0i}, \gamma_{1i}, \gamma_{2i}, \gamma_{3i}$ refer to the short run parameters, $\rho_1, \rho_2, \rho_3, \rho_4$ are refer to the long run relation,and φ is the error correction term that measure the speed of adjustment. The Schwarz Criterion (SIC) is used to choose the appropriate lag length and:

$$ECT = \ln Y_t - (\delta_0 + \delta_1 t + \delta_2 \ln R + \delta_3 \ln F + \delta_4 \ln E)$$

Based on (Satti, Farooq, Loganathan, & Shahbaz, 2014) and (Shahbaz, Ahmed, & Tiwari, 2019)' papers,the decision about cointegration is based on the calculated F-statistic; the joint significance of the coefficients of lagged variables has been tested. The null hypothesis of no cointegration implies: $H_0: \rho_1 = \rho_2 = \rho_3 = \rho_4 = 0$, and the rejection of the null hypothesis suggests existence of cointegration, that means we accept the alternative hypothesis of long run relationship $H_a: \rho_1 \neq \rho_2 \neq \rho_3 \neq \rho_4 \neq 0$. To make the decision of whether the variables are cointegrated or not, we should to compare the calculated F-statistics with two critical bounds provided either by (Pesaran, Shin, & Smith, 2001) or by (Narayan, 2005), one is lower bounds (LCB) that assume all variables are I(0) and other is upper bounds (UCB) that assume all variables are I(1). If LCB is higher than F-statistic we accept the null hypothesis and then, there is no cointegration, and if UCB is less than F-statistic, the decision is in support of cointegration, but if the F-statistic is lies between (LCB) and (UCB), then the results is inconclusive, in such situation, the cointegration among the variables will be tested by verifying if the error correction term is negative and statistically significant or not as suggested by (Banerjee, Dolado, & Mestre, 1998). In our study, the sample consists 42 observations and the critical bounds generated by (Pesaran, Shin, & Smith, 2001) are suitable only for a large sample size, therefore, we have to use the critical bounds given by (Narayan, 2005).

To check model perfection, we used a number of diagnostic tests such as CUSUM and CUSUMSQ for model stability, Jaque-Bera test for normality, the lagrange multiplier (LM) test for serial correlation, ARCH and White tests for heteroscedasticity and finally, RESET test for model specification.

4. Empirical results and discussion:

We began the analyses of our data by summary statistics; the results of descriptive statistics and correlation matrix are presented in table.1, in accordance with Jarque-Bera test the findings showed that all series are normally distributed with zero mean and constant variance. From the results of the correlation matrix it appears that natural resources abundance, financial development and trade openness are positively linked with economic growth.

Table.1 : descriptive statistics and correlation matrix

variables	lnYt	lnRt	lnEt	lnFt
Mean	7,8317	6,0150	6,4970	4,6859
Median	7,8380	5.9244	6,3951	4,6574
Maximum	8,0993	7,5608	7,9338	6,0123
Minimum	7,4871	4,4899	5,1540	3,2348
Std.Dev.	0,1428	0,7800	0,7609	0,7381
Skewness	-0,4835	0,1688	0,2494	-0,0360
Kurtosis	2,9665	2,5582	2,2811	1,8920
Jarque-Bera	1,6386	0,5410	1,3397	2,1572
Propability	0,4407	0,7629	0,5117	0,3400
lnRt	0,4344	1		
lnFt	0,4980	0,9573	1	
lnEt	0,5512	0,1153	0,1744	1

Source : Eviews V.8

To execute the ARDL approach in order to explore the existence of the long run relationship among economic growth, natural resource abundance, financial development, and trade openness, we have to perform in the second step precondition test involving stationarity tests to confirm that there is no variable is stationary at I(2) as one of the assumption of the ARDL bounds testing approach is that all variables must be integrated at order I(0), I(1), or fractionally integrated I(0)/I(1). The results of those tests

are reported in table.2. According to the ADF and PP unit root tests, the findings of both tests indicated that selected variables are not stationary at their level, but they become stationary at their first difference, which imply that all the series studied are integrated at I(1).

Table.2: ADF and PP unit root analysis

variables	ADF test with intercept and trend		PP test with intercept and trend	
	T statistics	Prob.Values	T statistics	Prob.Values
Level				
lnYt	-2,3644(1)	0,3916	-1,9569(1)	0,6067
lnRt	-2,7183(1)	0,2350	-2,7644(1)	0,2180
lnFt	-0,7975(1)	0,9576	-1,0802(1)	0,9202
lnEt	-1,9409(1)	0,6151	-2,0339(1)	0,5659
First difference				
ΔlnYt	-3,7164(1)	0,0326**	-3,7362(1)	0,0312**
ΔlnRt	-6,2448(1)	0,0000*	-6,2437(1)	0,0000*
ΔlnFt	-5,1725(1)	0,0007*	-5,1753(1)	0,0007*
ΔlnEt	-5,5753(1)	0,0002*	-5,5753(1)	0,0002*
Note: lag of ADF(pp) unit test is shown in parentheses*: Represent significant at 1% and 5% level of significance resepectly				

Source : Eviews V.8

In the next step, our empirical study investigates the presence of the cointegration relationship using ARDL method, starting by the bound test using Wald test (F-statistic) for testing the joint significance of the long run coefficients of lagged levels of variables of Eq.(2),the empirical outcomes show that there is a long run relationship among variables since the computed value of F-statistics (4.86) is exceed the lower and the upper bounds values generated by (Narayan, 2005),the null hypothesis of no cointegration is rejected when the economic growth and natural resource abundance are treated as a dependent variable at level of significance 10% (see table.3), and once we used trade openness as a dependent variable, the hypothesis of no cointegration is failed at 5% of significance. However, the results are inconclusive in the case where the financial development is considered as a dependent variable, further,the error correction term in this case is negative but not significant, which means that the null hypothesis is accepted only in the case when the financial development will be dependent variable. Generally, we can conclude that there is a long run relationship

between economic growth, natural resource abundance, trade openness and financial development in Congo. Reb over the period of 1974-2015.

Table.3: Bounds testing to cointegration

Estimated Models	$Yt = f(Rt, Ft, Et)$	$Rt = f(Yt, Ft, Et)$	$Ft = f(Yt, Rt, Et)$	$Et = f(Yt, Rt, Ft)$
Optimal lag structure	(1,0,1,0)	(1,1,1,1)	(1,0,2,0)	(1,1,1,1)
F-statistic	$4{,}86^{***}$	$5{,}2405^{***}$	4,5150	$6{,}8280^{**}$
Significant level	Critical value (T=45)			
	Lower bounds, I(0)	Upper bounds,I(1)		
10%	3,74	4,78		
05%	4,45	5,56		
01%	6,053	7,458		
ECT	$-0{,}2355^{*}$	-0.6121^{*}	-0.0483	-0.4379^{*}
R^2	0,3902	0,8363	0,4016	0,8694
Adjusted-R^2	0,2825	0,7954	0,2707	0,8367
F-statistic	3,6261	20,4468	3,0684	26,6328
Prob.Values	$0{,}0068^{*}$	$0{,}0000^{*}$	$0{,}0137^{**}$	$0{,}0000^{*}$
Note:*, **,***: Represent significant at 1%, 5% and 10% levels of significance respectively				

Source : Eviews V.8

Given the results of economic growth as a dependent variable presented in table.4, we validate the existence of resource curse hypothesis in the case of Congo.Reb because we found that natural resources has a negative impact on the economic growth in the short run as well as in the long run. A 1% increase in natural resources abundance leads to decrease in economic growth by 0.2523% in the long run and 0.0594 in the short run. The inverse link among natural resource and economic growth imply that the natural resource did not contribute in economic growth and impede it, in our study, we find that the Congo.Reb economy did not benefits from their resource as it should be. The negative impact or insignificant impact of resource abundance on economic growth of the rich countries in natural resources is known in the economic literature as resource curse, and this hypothesis was validate by many studies and was refused by others as we discussed early.

Regardless the other determinants of economic growth, the empirical results indicate that financial development have a positive impact on economic growth in the long-run, but statistically not significant, while exerts a negative and significant impact on economic growth in the short-run, from the results we observed that a 1% increase in financial development leads to decrease economic growth by 0.0567 % in the short-run, this findings is not consistent with view of (Satti, Farooq, Loganathan, & Shahbaz, 2014) for Venezuela in which they affirm that the financial development spurs economic growth by increasing capitalization, the same results are confirmed by (Yang, 2018) for middle-income countries, (Salahuddin & Gow, 2015) for South Africa. Our results are consistent with (Charfeddine & Kahia, 2019) for MENA countries, (Hao, Wang, & Lee, 2018) for China, (Menyah, Nazlioglu, & Wolde-Rufael, 2014) for SSA countries, in addition, (Nyamongo, Misati, Kipyegon, & Ndirangu, 2012) show that the importance of financial development in boosting economic growth appears weak for Africa countries.

The impact of exports on economic growth is positive and statistically significant at 1% level of signification in long-run as well as in short-run, 1% increasing in exports, economic growth increasing by 0.1774% in short-run, and 0.7535% in the long-run. The role of trade in stimulating economic growth was discussed in several studies and our findings are largely consistent with the positive effect of trade on economic growth as found in (Were, 2015) for developing countries, (Manwa & Wijeweera, 2016) for South Africa, (Manwa, Wijeweera, & Kortt, Trade and growth in SACU countries: A panel data analysis, 2019) for SACU countries (Southern Africa Customs Union). As for coefficient of error correction term is negative and statistically significant at 1% level of significance (-0.2355), this coefficient suggest that the short-run deviation is corrected by 23, 55% toward long run equilibrium path.

Table.4: long and short run results

Dependent variable = lnYt				
Variables	coefficients	Std.error	T-statistic	Prob.Values
Long Run analysis				
lnRt	$-0{,}2523^{***}$	0,1377	-1,8320	0,0757
lnFt	0,0542	0,0437	1,2421	0,2227
lnEt	$0{,}7535^{*}$	0,2382	3,1621	0,0033
Constant	$4{,}7456^{*}$	0,7515	6,3146	0,0000
Trend	$-0{,}0243^{*}$	0,0087	-2,7691	0,0090
Short Run analysis				
lnRt	$-0{,}0594^{***}$	0,0308	-1,9276	0,0623
lnFt	$-0{,}0567^{***}$	0,0280	-2,0198	0,0513
lnEt	$0{,}1774^{*}$	0,0411	4,3119	0,0001
Constant	$1{,}1177^{**}$	0,4451	2,5106	0,0170
Trend	$-0{,}0057^{*}$	0,0012	-4,4208	0,0001
ECT	$-0{,}2355^{*}$	0,0619	-3,8035	0,0006
R^2	0,9254			
F-statistic	$70{,}3702^{*}$			
Short Run diagnostic tests				
tests	F-statistics	Prob.Values		
B-G serial	1,3243	0,2816		
B-P-G hetero.	1,0476	0,4125		
ARCH(3)	0,2547	0,8574		
white	0,9362	0,5764		
Remsay	1,3332	0,2779		
Note:*, **,***: Represent significant at 1%, 5% and 10% levels of significance respectively				

Source : Eviews V.8

The results from diagnostic tests are reported in table.4,the LM test indicated that the model are free from serial correlation,the ARCH and white tests revealed no heteroskedasticity problem,further, the normality is supported by Jaque-Bera test, and the results of RESET test suggested that the model is well specified. Fig.1 and Fig.2 represent CUSUM and CUSUMSQ tests, and the results of those tests showed that estimated parameters of ARDL model are stable over the time as both diagrams are within critical bounds at 5% level of significance.

Fig.1 Plot of cumulative sum of recursive residuals

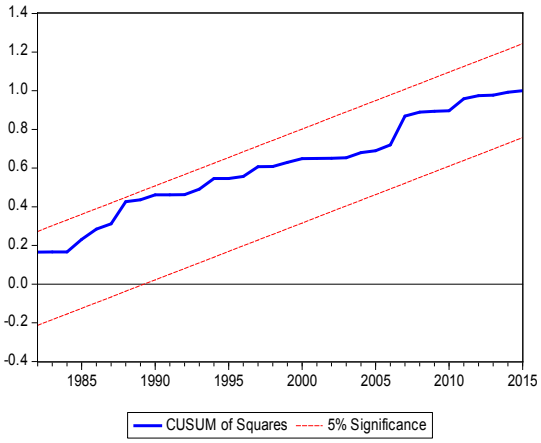
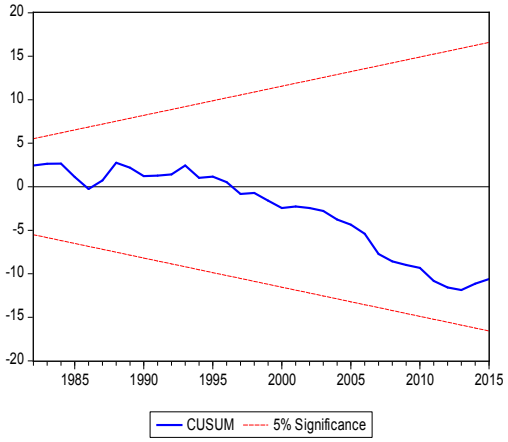


Fig.2 Plot of cumulative sum of squares of recursive residuals



Source : Eviews V.8

5. Conclusion:

In this study, we empirically explored the effect of natural resource abundance on economic growth for Congo.Reb over the period 1974-2015 by using ARDL approach in order to test the resource curse hypothesis, the findings of this research suggest that the natural resource did not enhance economic growth, and instead of contributing positively on growth, it affects him negatively. This evidence has been supported by many researchers in many economies; the lack of contribution of natural resources on economic growth may be the result of widespread corruption, the weak quality of institution, the weak quality of governance, the civil

wars,the quality of bureaucracy and democracy, and the government and political instability. In other side, the natural resource can affect positively and indirectly economic growth via exports, it can promote exports that enhance economic growth, and indeed, we find that exports affect positively economic growth, knowing that most exports from naturally rich countries come from their natural resource such as oil exports.

In term of policy implication, we provide our insights that can help the policy makers to benefit from their resources, the policy makers have to adopt efficient institutional reforms, use an advance strategies anti-corruption, reforming the banking system, promote democracy and transparency, spur the private investment and implement public private partnership investment (PPPI) in natural resources projects. In addition, the policy makers have to choose the foreign direct investor that characterized by his performance efficiency in management and technologies.

6. References :

1. Abdulahi, M. E., Shu, Y., & Khan, M. A. (2019). Resource rents, economic growth, and the role of institutional quality: A panel threshold analysis. *Resources Policy*, 293-303.
2. Ahmed, K., Mahalik, M. K., & Shahbaz, M. (2016). Dynamics between economic growth,labor,capita land natural resource abundance in Iran : An application of the combined cointegration approach. *Resources Policy*, 213-221. Perez de Gracia, F. (2017). Oil dependence, quality of political institutions and economic growth: A panel VAR approach. *Resources Policy*, 147-163.
3. Banerjee, A., Dolado, J., & Mestre, R. (1998).. Error-correction mechanism test for cointegration in a single-equation. *Journal of time series analysis,* 267-283.
4. Charfeddine, L., & Kahia, M. (2019). Impact of renewable energy consumption and financial development on CO2 emissions and economic growth in the MENA region: A panel vector autoregressive (PVAR) analysis. *Renewable Energy*, 198-213.
5. Engle, R., & Granger, C. W. (1987). Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, 251-276.
6. Hao, Y., Wang, L.-O., & Lee, C.-C. (2018). Financial development, energy consumption and China's economic growth: New evidence from provincial panel data. *Internatio*
7. Antonakakis, N., Cunado, J., Filis, G., &

8. *nal Review of Economics and Finance*, 31066-9.
9. Henry, A. (2019). Transmission channels of the resource curse in Africa: A time perspective. *Economic Modelling*, 13-20.
10. Hilmawan, R., & Clark, J. (2019). An investigation of the recource curse in Indonesia. *Resources Policy,* 101483.
11. Humphreys, M., Sachs, J., & Stiglitz, J. (2007). *Escaping the Resource Curse.* books.google.com: Columbia University Press.
12. Johansen, S. (1995). A Statistical Analysis of Cointegration for I(2) Variables. *Econometric Theory*, 25-59.
13. Johansen, S. (1991). Estimation and Hypothesis Testing of Cointegration Vectors in Gaussian Vector Autoregressive Models. *Econometrica*, 1551-1580.
14. Johansen, S. (1988). Statistical analysis of cointegration vectors. *Journal of Economic Dynamics and Control*, 231-254.
15. Manwa, F., & Wijeweera, A. (2016). Trade liberalization and economic growth link: The case of Southern African Custom Union countries. *Economic Analysis and Policy*, 30017-0.
16. Manwa, F., Wijeweera, A., & Kortt, M. (2019). Trade and growth in SACU countries: A panel data analysis. *Economic Analysis and Policy*, 107-118.
17. Marques, A. C., & Pires, P. S. (2019). Is there a resource curse phenomenon for natural gas? Evidence from countries with abundant natural gas. *Resources Policy,* 101466.
18. Mehrara, M. (2009). Reconsidering the resource curse in oil-exporting countries. *Energy Policy*, 1165-1169.
19. Menyah, K., Nazlioglu, S., & Wolde-Rufael, Y. (2014). Financial development, trade openness and economic growth in African countries: New insights from a panel causality approach. *Economic Modelling*, 386-394.
20. Mohamed, N. M. (2018). The Development role of GCC Foreign Trade under Resources Curse, Openness and Institutional Quality. *Arab Economic and Business Journal,* 209-219.
21. Narayan, P. K. (2005). The saving and investment nexus for China: evidence. *Applied Economics*, 1979-1990.
22. Nyamongo, E. M., Misati, R., Kipyegon, L., & Ndirangu, L. (2012). Remittances, financial development and economic growth in Africa. *Journal of Economics and Business*, 240-260.
23. Olayungbo, D. (2019). Effects of oil export revenue on economic growth in Nigeria: A time varying analysis of resource curse. *Resources Policy*, 101469.
24. Pesaran, H., Shin, Y., & Smith, R. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, 289-326.
25. Qian, X., Wang, D., Wang, J., & Chen, S. (2019). Resource curse, environmental regulation and transformation of coal-mining cities in China. *Resources Policy*, 101447.

26. Sachs, J., & Warner, A. (1995). *Natural Resources Abundance and Economic Growth.* Cambridge: National Bureau of Economic Research.
27. Salahuddin, M., & Gow, J. (2015). The effects of Internet usage, financial development and trade openness on economic growth in South Africa: A time series analysis. *Telematics and Informatics*, 00133-1.
28. Satti, S. L., Farooq, A., Loganathan, N., & Shahbaz, M. (2014). Empirical evidence on the resource curse hypothesis in oil abundant economy. *Economic Modelling,* 421-429.
29. Shahbaz, M., Ahmed, K., & Tiwari, A. K. (2019). Resource curse hypothesis and role of oil prices in USA. *Resources Policy*, 101514.
30. Wang, R., Zameer, H., Feng, Y., Jiao, Z., Xu, L., & Gedikli, A. (2019). Revisiting Chinese resource curse hypothesis based on spatial spillover effect: A fresh evidence. *Resources Policy*, 101521.
31. Were, M. (2015). Differential effects of trade on economic growth and investment: A cross-country empirical investigation. *Journal of African Trade*, 71-85.
32. Wu, S., Li, L., & Li, S. (2018). Natural resource abundance, natural resource-oriented industry dependence, and economic growth: Evidence from the provincial level in China. *Resources, Conservation & Recycling*, 163-171.
33. Yang, F. (2018). The Impact of Financial Development on Economic Growth in Middle-income Countries. *Journal of International Financial Markets, Institutions & Money*, 30459-1.