

External Debt of Sudan, Position with Heavily Indebted Poor Countries (HIPC) initiative and the impact of Exchange rate & Inflation rate after the independence of South Sudan 2010-2017.

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Abstract : aim to explore and investigate Clarify of Sudan external debt , the reasons, details of obligation, also a position on the Heavily Indebted Poor Countries (HIPC) Initiative, also clarifying the correlation and impact of changes in the exchange rate and inflation rate on total external debt after the independence of Southern Sudan in September 2011 for period 2010-2017, The first hypothesis is representing the bilateral debt and arrears, especially delayed interest rate is major factors in the external debt particularly after the independence of southern Sudan. the second hypothesis exchange rate and inflation rate has negatively effect on the external debt of Sudan for the period 2010-2017, Resulting, Existence Statistical significance relationship, and a correlation between external debt and the exchange rate in its official and parallel market, also External debt is affected by changes in the exchange rate, in particular, the parallel exchange rate resulting from the massive decline in exports following the independence of South Sudan, Bilateral debt and interest rate are representing the largest proportion of Sudan's external debt. also Bilateral debt from a non-member of the Paris Club and instability of economic, political situation it is the biggest problem preventing access to the HIPC decision point also it is difficult to prepare or implementing the full Poverty Strategy Reduction Paper(PSRP), A huge Differences in external debt data between the Central Bank of Sudan and international institutions or creditors that prove a lack of coordination and transparency between them in preparation of data. paper Recommending, to Liberalization of the exchange rate with a focus on alternatives to non-petroleum exports, also create foreign investment revenues to ensure a safety level in foreign currency reserve until the strengthening of domestic production. also prudent management of foreign loans in the narrowest limits, loans on concessional terms and not to borrow permanently from non-members of the Paris Club with creating economic partnership with creditor countries that have the largest proportion of informal bilateral debts (non-members of the Paris Club) to promote and facilitate Sudan's position in negotiating either write-off in HIPC or with respect to benefits as the largest and most significant impediment in Sudan's external debt , finally Accurate presenting of external debt details regard to interest rates, assets, withdrawals, and uses of loans with necessary coordination with creditors to solve the variance of data to achieving real results when studied.

Key word: Sudan external debt, independence of South Sudan, exchange rate, Heavily Indebted Poor Countries.

Date of Submission: 29-06-2019

Date of acceptance: 15-07-2019

I. Introduction

According to the International Monetary Fund, Gross external debt is the amount, at any given time, of disbursed and outstanding contractual liabilities of residents of a country to nonresidents to repay principal, with or without interest, or to pay interest, with or without principal.(IMF, 2003:PP 1-3). Generally, external debt is classified to (public and publicly guaranteed debt, private non-guaranteed credits, central bank deposits, loans due to the IMF. However, the exact treatment varies from country to country, but the most import one is public and publicly guaranteed debt classified to (bilateral debt, multilateral debt, and commercial debt).

Sudan continues to face major macroeconomic imbalances resulting from the secession of Southern Sudan in mid-2011 and significant losses in oil and foreign-exchange-related revenues. Political efforts to increase economic growth are also constrained by international sanctions, the accumulation of large external debt and internal conflicts , external debt in the end of 2017 increased to 56.05 billion dollars, representing 123.1% of GDP and 1367.7% of exports and 667.2% of Government revenues. Also failed in four rescheduling agreements with the Paris Club, also eligible for debit reduction under Heavily Indebted Poor Countries (HIPC) It will shift from pre-decision point to decision point after complete all required points, after south Sudan independence, After the independence of southern Sudan as a resulting public referendum in September 2011 led to falling in oil exports, which accounted a large part of total exports and government revenues also this was reflected by a large falling in the local currency exchange rate and rising inflation rates and also many indicators, as external debt.

Objective: paper seeking to explore and investigate the following: Clarify of Sudan external debt case, the reasons, details of obligation, additional showing position on the Heavily Indebted Poor Countries (HIPC) Initiative, also clarifying the correlation and impact of changes in the exchange rate and inflation rate in the total external debt after the separation of Southern Sudan in September 2011.

The Problem: The external debt is impeding the economic development, as huge debt amount restricting it possible of solving only under HIPC initiative. There are many contradictions need to clarify in external debt data in both the Sudan authorities and IMF amounts of liabilities, also especially after the secession of the South Sudan in September 2011 after huge loss in oil exports and public revenues that reflected on the exchange rate and the rate of inflation and external debt without explaining this effect on external debt.

The hypotheses: The first hypothesis is representing the bilateral debt and arrears, especially delayed interest rate is major factors in the external debt of Sudan particularly in the period after the secession of southern Sudan. the second hypothesis exchange rate and the inflation rate has negatively effect on the external debt of Sudan for the period 2010-2017.

Empirical analysis & Research Methodology: Analysis one models are used to show correlation & measure the impact exchange rate & inflation rate on the total stock of external debt of Sudan after the dependence of South Sudan from 2010-2017. Data and Justification of Selection of Cases Studies Research uses the descriptive, comparative and quantitative methods of analysis and use a combination of the most suitable primary (qualitative) and secondary (quantitative) Data. The Secondary data was used for the quantitative analysis and obtained from local Institutions (e.g. governmental institutions reports..., Etc.).

Second theoretical frame: 1- Literature:

- **Elwasila S. E. Mohamed (2018)** examined the effect of external debt on the economic growth of Sudan 1969-2015. model built used GDP as the dependent variable to measure economic growth as a function of the ratio of external debt to exports, exchange rate and foreign direct investments as the explanatory variables using annual time series for 1969-2015. Empirically, study employed the econometric techniques of the Augmented Dickey-Fuller (ADF) unit root test for stationary, the Johansen cointegration method and the Vector Error Correction Method (VECM). test was showed that a long-run equilibrium relationship exists among the variables of the study. Findings from the VECM show that external debt peroxide by the external debt to exports ratio has contributed positively to the Sudan economy, while exchange rate and foreign direct investment have negative effects on GDP growth which is consistent with findings of most empirical studies at the macroeconomic level. recommended that the government should ensure macroeconomic and price stability with maintaining access to foreign loans so that to supplement low levels of domestic savings in order to enable long term economic growth. Exchange rate needs to be stabilized and the perceived effect of foreign direct investments on economic growth needs to be reinvestigated with the enhancement of human capital and institutions.

- **Saad A. Alkaram (2016)** paper analyzes Sudan foreign debt and development under economic variables on domestic and global. by studying the foreign debt crisis in Sudan to understand it and make proposals to address it. The paper assumes that there is a continuous increase in Sudan foreign indebtedness and that the inefficient exploitation of the foreign loans led to the non-sustainability of the foreign debt. However, the political factor further exacerbated the crisis of Sudan foreign indebtedness. used the historical and descriptive analytical approaches in an attempt to reach logical results to contribute to the development of proposed solutions to address the foreign debt crisis in Sudan. the paper found that the foreign debt of Sudan continues to increase with high sustainability indicators meaning that the country is going through a sharp foreign debt crisis rendering it difficult for it to meet its obligations and obtain new loans on concessional terms.

- **ELBEELY, Khalid Hassan.(2015)** The paper aimed to identify the main factors behind Sudan's huge external debt, also identify its impact on the country's major economic indicators (especially Foreign Direct Investment (FDI), Per capita income, and poverty). Moreover, examined the strategies adopted by the government in order to reduce its unsustainable debt including benefiting from the available international initiatives such as Heavily Indebted Poor Countries (HIPC), besides proposing a way out for the relief of the country unsustainable external debt. the study indicated that Sudan's debt is unsustainable and the country is highly indebted. Subsequently, statistics by the International Monetary Fund (IMF) showed and prove these. sustainable ratios for Sudan are far beyond the threshold of debt sustainability for Less Developing Countries. Although, the country is qualified technically to benefit from the HIPC initiatives, but Sudan has been banned from entering into the initiative, partly because the country needs to settle its arrears to the major creditors, i.e., IMF, World Bank (WB), and African Development Bank (AFDB), Paris and Non-Paris Club Creditors, and partly due to political demands imposed by the international community (in general and US in particular) to solve the Darfur problem.

- **Mohamed, M. A. A. (2005).** Paper investigated, empirical point of view, the impact of Sudan's external indebtedness on economic growth over the period (1978-2001). also, a growth rate of real export earnings was included in the empirical model to capture the impact of export promotion strategy in inducing

economic growth, when the inflation rate is incorporated as a macroeconomic policy variable. The results of the study reveal the existence of a debt overhang problem in Sudan, i.e. external debts exceed the country's repayment ability. The study concluded that external debt and inflation deter economic growth, while export earnings have positive impacts. Thus, the findings of this study support the need for Sudan to be considered for comprehensive debt relief measures. recommended the adoption of an export-led growth strategy besides improving infrastructure. Furthermore, encouraging domestic saving & realizing peace in a united Sudan will help restore debt sustainability.

- **Al-Fadhel. Haitham (2011)** examined Sudan's attempts to benefit from the Debt Relief Initiative for Heavily Indebted Poor Countries (HIPC) from 1992-2000 aimed to identify Sudan's efforts with the International Monetary Fund, included data statistics for 16 years. results of the study are the existence of some constraints the implementation of the HIPC's poor countries including Sudan, the related shape of the kind of state its ability to implement the policies and procedures set by the International Monetary Fund. The financial crisis 2008 has a role in the failure of Sudan and some of the heavily indebted poor countries Implement structural adjustment policies and poverty reduction policy to benefit from the HIPCS initiative. Economic and financial reform policies should be designed to suit Sudan's position and work to support the requirements of increasing economic growth and employment by activating the market mechanism also encouraging the private sector to Increase investment and production in all sectors and create an appropriate investment environment to encourage domestic and foreign private investment.

- **Almosharaf Haitham(2014)** study The Causes of Sudan's Recent Economic Decline, while Most economists have used the background of the civil war in Sudan to analyze the Sudanese economic decline in the last three decades. But a little focus upon the situation can show that the civil war was not the main reason of the decline, as although it may be considered as one of the decline factors, but the real reason is the economic policies of the Sudanese governments which were assumed to be the principles director of the economic regulations. These policies through its fluctuations led to current impact, especially since the last thirty years. This article tries to extract and discuss the decline reasons according to two types of factors, internally and externally.

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2- Sudan external debtreasons:

Poor countries, including Sudan to international finance, including borrowing to maintain existing levels of aggregate consumption. According to weak national savings and foreign savings trying to invest and achieve and accelerate the process of economic development.

1- The deficit in the current account in the balance of payments of Sudan led to borrowing from external sources. This is due to the dependence of the foreign trade in economic of Sudan on the export of primary products also the import of the country's food, consumer and raw materials needs, which reflected on the balance of payments 40 years (1957-2004), except form 2009-2011 was due to oil exports. The export sector is the main source of foreign exchange, especially in recent years, which has been characterized by a significant decline in foreign loans and aid. The development depends on the foreign exchange rate from the proceeds of the exports. Sudan's exports face problems that have adversely affected its competition abroad, including:

a- The composition of Sudanese exports depends on certain exports (cotton, Arabic gum , sugar, gold, and petroleum), this production adopted largely on natural factors (climate, rain, agricultural pests) it is characterized by high demand, led to reduces their profitability with evolution of competing on industrial alternatives in the global markets, Sudan lost its vantage competitiveness.

b- Increasing agricultural production cost adoption by the constraints on the inputs of products imported from abroad and other factors such as inflation, taxes and other fees.

c- Instability of exchange rate policies, export policies and with lack of export services in a way that helps manage the movement of exports from the production sites to the markets also obstacles related to funding gaps Focused towards the priority sectors, especially the agricultural sector, Its financing share on the policy of the Central Bank of Sudan 1994 (30% -40%) as a minimum of the ceiling. The banks' focus on financing short-term financing and neglecting long-term financing has led to an imbalance in economic development.

d- Inexistence of a good plan for the manufacture, export of commodities. Sudan relied on the export of raw materials at the same time import of final goods as according to traditional development thought that is social development are achieved through the success of increasing the standard of living and economic welfare. Towards the provision of consumer goods, recreational and semi-recreational, consumed by high incomes and thus neglected the rest of the different sectors. (Abdul Hafeez, 2009: 125)

2 - Failure of the strategy of establishing import substitution projects to increase exports with achieving a surplus balance of payments by many projects that rely on foreign funding and currency shortages due to a persistent balance of payments deficit.

3- Adopting the deficit financing policy (print money un covered) to finance the deficit on budget, led increases the money supply and leads to:

- Increase in inflation rates: The increase in inflation leads to a reduction in the purchasing power revenues and a reduction in the purchasing power and competitiveness of exports, which are used to meet the import requirements, may impinge on all reserve reduce it without the ability to return it to its guaranty safe volume for a period.
 - reducing of returns on savings opposite of foreign returns, with creating the environment and justifiable for the smuggling of capital and foreign currency, leads to increase in the demand of foreign currencies, with lead to the spread of the Parallel Market in foreign currencies also thus increase the deficit balance of payments and resort to foreign funding to cover deficits as It happened in the 1980s and 1990s.
- 4 - Natural and human disasters, political instability , external shocks, with continuing to decrease of growth rate of gross of real national income increase spending on the processes of dealing with these disasters, it is represents obstacle on national savings with the stability of the level of local investments, resulting in widening resource gap, which necessitates recourse to external borrowing to fill this gap.
- 5 - carelessness about conditions of sustainable external debt burdens over the long term, provided that the rate of growth in GDP is bigger than the expected interest rates in the balance of payments.
6. Restricting the Independence of recipient countries to use finance to seek the best prices mechanisms, experts and production inputs, since most donor countries link their loan grants to a specific market, finance specific projects or finance the purchase of goods and services from borrowing countries or their allies.
7. Lack of economic studies of the feasibility of projects with regard to total cost and currencies and the currency of payment and of appropriate technology with inadequate planning and delay in the completion of technical , administrative procedures and inadequate supervision of the funded project in addition to the multi - financiers of a particular project without the full coordination of the stages of implementation. (Abdul Hafeez, 2009: 125-126)

3-Reasons of accumulation of indebtedness of Sudan:

Although Sudan was able to attract loans and grants during the post-independence period, the political instability and weak economical management of foreign resources and the accompanying selection of projects that are not studied of their feasibility with unfollow the implementation of projects also the irrational use of some loans with failure of economic authorities to commit to develop a framework Economic and investment policies have thwarted attempts to grow progress led to offer the country deep economic crises, which means the absence of a clear strategy to attract and rationalize foreign savings. increase in external debt of Sudan due to the inability of repaying its foreign liabilities and its external debt service, along with the increase in the contractual and penal interest rates for loans, especially during the 1970s, which led to the aggravation of the indebtedness crisis to Sudan. The growth rate of external debt increased from 19% in 1980 to 23% in 1981.

a - high prices of petroleum & derivatives (the first oil crisis 1973-1979): The sudden rise in prices of petroleum products during the 1973-1974 (the first oil crisis) to destabilize the economies of developing countries, especially oil importers, and thus created unequal exchange trade relations for the favor of oil exporting countries. high prices of petroleum products and derivatives have a clear impact on the imbalance of trade of Sudan, which led to the failure of to pay its debts since the beginning of the eighties and led to rescheduling debt in the Paris Club agreements, in the second oil crisis and the problems of drought and desertification. Also The decrease of exports contributed in a decrease of foreign resources, which led to a decrease in the debt service, and the flow of loans from international and bilateral institutions, also decrease in old loans, its led to the accumulation of indebtedness between 1984 and now. Sudan began in 1998 with the agreement of the Arab funds to schedule its arrears (such as the Saudi Fund for Development 1998 and the Arab Fund for Economic and Social Development 1999) which contributed to the increase in debt service during 1999 until now, in addition to obtaining a number of new concessional loans and Development and reclamation of old projects, which led to an increase in withdrawals during that period.

b - Failure of scheduling programs : Sudan resorted to the Paris Club 1979 to schedule its debts, where the arrears of the amount and interest are scheduled and Sudan signed four agreements during the years 1979-1981-1983-1984 and the repayment periods ranging from 6 to 7 years and a grace period of 3 years with a commercial interest rate between 8% -9%. Sudan has failed to pay according to the programs of these agreements because of the short period of repayment and high-interest rates. In addition, the scheduling included part of the debt and did not include any exemptions for debt. Sudan was unable to benefit from the initiatives that followed, such as the Naples Club initiative, which exempted 67% Debts and remaining maturities of at least 40 years. Sudan signed the refinancing agreement for commercial banks in 1981, where the debts of commercial banks in Sudan were subject to treatment through this agreement and included the origin of the debt until 31/12/1979. The amount that was re-scheduled at the time amounted to \$ 554 million, to be paid in seven years with a grace period of three years. The agreement has been amended several times, but Sudan has not fulfilled its obligations after the amendment due to the fact that this agreement is not suitable for the economic conditions experienced

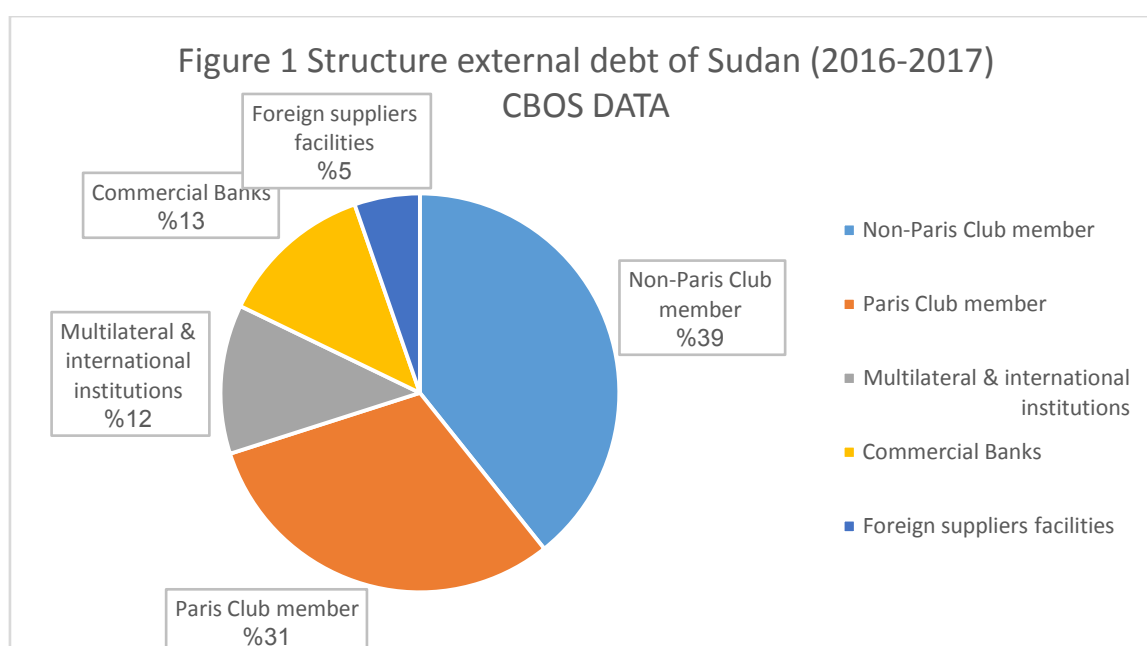
by Sudan in terms of short duration The timeframe in addition to the agreement included part of the debt.(Abdel-Hafiz, 2009: 127-129)

4- Sudan's foreign Liabilities:

Table (1) Structure Sudan external debt of Sudan CBOS DATA (2016-2017) (billion dollars)

Creditors	2016	2017*							
	Total	Nominal debt	Nominal interest		Delayed interest		Total debt	TOTAL Interest rate / total debt	Percentage of total debt%
			value	%	value	%			
Non-Paris Club member	17.6	6	2.3	%12.4	10.2	%55.1	18.5	67.6%	39%
Paris Club member	14	2.4	1.6	%11.0	10.5	%72.4	14.5	83.4%	31%
Multilateral & international institutions	5.6	4	0.5	%8.8	1.2	%21.1	5.7	29.8%	13%
Commercial Banks	5.7	2.8	0.2	%3.4	2.9	%49.2	5.9	52.5%	12%
Foreign suppliers facilities	2.5	2.5	0	%0.0	0	%0.0	2.5	0.0%	5%
Total	45.4	17.7	4.8	%10.2	24.8	%52.7	47.1	62.8%	100%

Source: External Debt Unit - CBOS Annual Report 2017. * Preliminary data



The flow of loans was huge rates during the 1970s and 1980s because it was a weak management of foreign resources with careless about a complete visions related with dealing with the imbalances in the structure of the economy also , where the public sector dominated most investments and use to the selection of many huge projects with careless to study in its technical, economic, financial and temporal dimensions, which led to delay in implementation and increase in cost and failure of many of them halfway of time project. Authorities were interested in deficit financing, commercial borrowing and cash loans to minimizing the funding gap and the balance of payments deficit. This coincided with the escalation of the Nominal interest rate, Delay interest rates for loans,and accompanied balance the debt to some extent by promises to be reducing with scheduling following the signing of the Comprehensive Peace Agreement (CPA).(Secretariat of the National Council for Strategic Planning 2010: 185-187) After the independence of the South as a result of the referendum south taken revenues of petroleum it is reflecting on the impact of the decline in exports also revenues and payments of debt service and also by other way accompanied by a significant decline in the value of the local currency, that exacerbated the debt crisis and increase the rates of growth of external debt until it reached that 12/31/2017 about \$ 47.1 billion, according to the Central Bank of Sudan data CBOS.(CBOS 2017:178-179)

- Sudan's total foreign liabilities increased from the US \$ 45.4 billion at the end of 2016 to the US \$ 47.1 billion at the end of 2017 at a rate of 3.4% covering all sources of finance. The increase in debt is mainly due to the increase in Delay interest rate resulting from exchange rate fluctuations during the year 2017. contribution of

creditors financing to the size of indebtedness, non-members of the Paris Club by 39%, followed by Paris Club countries at 31%, international commercial banks and suppliers' facilities at 17%.

- Bilateral creditors debts represent 23 billion dollars, 70% of total external debt. The debts of non-members of the Paris Club 39%, then bilateral creditors debts of Paris Club members 31% from the total, followed by the debts of multilateral creditors institutions, 13% and then commercial banks and facilities suppliers.

- Interest rate amounts of \$ 29.6 billion represented 62.8% from total debt, distributed 52.7% delay interest rate, while 10.3% are Nominal interest rate, Proof that the interest in general and delay, in particular, are mainly variable increases the accumulation of debt and payment.

- The largest percentage of interest to the member states of Paris, 83.4% of the total accrued interest is represented by 72.4% Delay interest rate , 11% of the Nominal interest rate, then the debts of members of the Paris Club 67.6% of the total accrued interest is 55.1% Delay interest rate and 12.4% Nominal interest rate.

Table (2) stock of external debt of Sudan 2010-2017 IMF DATA (billion dollars)

Year	Total debt	% GDP	% exports	% revenue
	Thresholds	30	100	200
2010	39,486	60.1%	346.2%	442.4%
2011	41,450	62.4%	429.3%	479.1%
2012	43,191	88.2%	1062.1%	695.8%
2013	45,022	85.1%	940.0%	624.8%
2014	46,781	77.0%	1050.4%	537.2%
2015	49,747	75.5%	1569.4%	527.3%
2016	52,383	93.9%	1693.3%	565.8%
2017	56,05	123.1%	1367.7%	667.2%

Source: DAS Report of IMF 2016-2017, SUDAN Ministry of Finance and CBOS.

- The total external debt of Sudan reached in 2010 \$ 39.4 billion, equivalent to 60.1% of GDP, equivalent to 346.2% of exports, 442.3% of public revenues, in 2011 after three months of independence of South Sudan, external debt increased to \$ 41.4 billion 62.4% of GDP, 429.3% of exports and 479.1% of revenues for the same year.

- effects of the independence of South Sudan were clear on indicators of sustainability of external debt in 2012 and 2013 so that the value of debt in 2012 amounted to \$ 43.1 billion, 88.2% of GDP and 1062.1% of exports, 695.8% of revenues, also escalated in 2013 (85.1% of GDP, 940% of exports and 624.8% of revenues). This is due to the slight decrease in the previous year in both the GDP index , exports and revenues to increase the yield of gold and natural gas production (Central Bank of Sudan, 2013: 162), in the end of 2017 the external debt of Sudan increased to 56.05 billion dollars, representing 123.1% of GDP and 1367.7% of exports and 667.2% of Government revenues.

- the debt ratio of GDP, exports and revenues rising continuously due to the continuing rise in the debt resulting from the delayed and contractual(nominal) interest rate, also according of falling in the value of the Sudanese pound decline against the US dollar and huge increasing inflation rate, even reached 53.3 billion in 2017, also well as notes from after the 2011 value of the debt, has risen as a percentage of exports of 346.2% in 2010 to 1062.1% in 2012 until they reached in 2017 to 1367.7%, and also the value of the debt as a percentage of government revenues from 479.1% in 2011 to 695.8% in 2012, Due to the secession of southern Sudan and the loss of oil export revenues represented a major part of Sudan's exports and government revenues.

- The International Monetary Fund (IMF) report also noted the estimated US \$ 2.4 billion deposited in the Central Bank of Sudan by official creditors in 2016 and 2017 deposits from Gulf countries including Saudi Arabia, Kuwait, and Qatar. Is shown in the balance of payments under "Other capital flows.(IMF,DAS Sudan,2017:3)

Table (3) Difference of data between IMF and CBOS in External Debt 2011-2018 (billion dollars)

Year	CBOS DATA							Diff-new debt(imf-cbos)	Diff-total(imf-cbos)	IMF DATA	
	Nominal	Annual difference in nominal	Interest	Annual diff- in interest	Total Debt	New debt	Diff-of annual diff-nominal & new debt			Total	New debt
2011	16.3	-	20.3	-	39.8	0.6056	-		1.6	41,450	-
2012	17	0.7	24.4	4.1	42	0.3874	0.3126	0.0436	1.1	43,191	0.431
2013	17.7	0.7	26.1	1.7	44.4	0.3447	0.3553	0.2733	0.6	45,022	0.618

2014	17.1	-0.6	36	9.9	43.7	0.2987	-0.8987	-0.1467	3	46,781	0.152
2015	17.2	0.1	27.8	-8.2	43.9	0.4308	-0.3308	-0.1688	5.8	49,747	0.262
2016	17.3	0.1	28.1	0.3	45.4	0.2011	-0.1011	0.1179	6.9	52,383	0.319
2017	17.7	0.4	29.4	1.3	47.1	0.1192	0.2808	0.0508	8.9	56,05	0.170

Source: CBOS annual Rep(2010-2017), IMF Debt Sustainability Report 2017.

- Differences in new loans: the table shows new loans in 2012 of \$ 387.4 million, according to CBOS, while the IMF reached \$ 431 million, a difference of \$ 4.3 million. In 2013, new loans amounted to \$ 344.7 million, according to CBOS data. (US \$ 618 million), in 2014 and 2015, the IMF for CBOS decreased by \$ 146- \$ 168 million respectively. In 2016, of \$ 201 million, according to CBOS While the IMF amounted to \$ 319 million, a difference is \$ 117.9 million, in 2017 worth \$ 119 million according to data while CBOS at the IMF reached \$ 170 million, a difference of 50.8 million dollars.

- Differences in the total debt balance: From the previous table, in 2011 was \$ 39.8 billion, according to CBOS data the IMF reached 41.4 by 1.6 billion and the difference continued ,but decreased in 2012 and reached again in 2013 to \$ 600 million, This is due to co-ordination after the visit of IMF staff and observers, then the differences in the data increased significantly in 2014 and 2015 to reach 8.9 billion dollars in 2017 and by 47.1 billion dollars according to CBOS data and 56.05 billion dollars by IMF.

it is clear that there is a significant discrepancy between IMF and CBOS data, these requiring form external debt management department in Central Bank of Sudan, trying to promote and find out the reasons for the differences and joint coordination with IMF & Creditors in the preparation of consolidated data it is clear that Sudan's foreign debt.

5- Sudan & Heavily Indebted Poor Countries (HIPC) Initiative:

The HIPC Initiative was launched in 1996 by the IMF and World Bank, with the aim of ensuring that no poor country faces a debt burden it cannot manage. Since then, the international financial community, including multilateral organizations and governments, have worked together to lower to sustainable levels the external debt burdens of the most heavily indebted poor countries. The joint IMF–World Bank comprehensive approach to debt reduction is designed to ensure that no poor country faces a debt burden it cannot manage. To date, debt reduction packages under the HIPC Initiative have been approved for 36 countries, 30 of them in Africa, providing \$76 billion in debt-service relief over time. Three additional countries are eligible for HIPC Initiative assistance.(Factsheet HIPC,IMF .2019)

Since the 1970s, the Paris Club countries developed many initiatives that differ in terms of treatment and related conditions. The conditions that the country concerned should have an economic program with the International Monetary Fund. Sudan signed four rescheduling agreements with the Paris Club on November 13, 1979, negotiating \$ 487 million, the second on March 18, 1982, \$ 270 million, the third on February 4, 1983, at \$ 516 million, and the fourth on \$ 263 million on 3 May 1984.

Sudan entered into a refinancing agreement with international commercial banks in 1980. As a result of Sudan's inability to meet its obligations, these treatments have not reduced, resulting in a halt in the flow of loans and foreign aid. Unpredictable economic policies at the time also contributed to the worsening economic conditions and thus the inability to meet the repayment of the interest of those debts and accumulated to become compound benefits and compounded and exacerbated

Eligibility for Sudan: A country eligible to benefit from the HIPCs initiative should meet the following conditions(Andrews, D., Boote, A. R., Rizavi, S. S., & Singh, S.-IMF :1999).

- Technical conditions for eligibility of HIPC .

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Table (4) Technical Criteria for eligibility of HIPC

Criteria	INH-HIPC	Sudan
Net present value of debt / exports	150	1367.7
Net present value of debt /Revenue	250	667.2
Exports / GDP	30	8.9
Revenue / GDP	15	18.5

Source: Andrews, D., Boote, A. R., Rizavi, S. S., & Singh, S-IMF,1999.

Poverty Reduction Strategy Paper (PRSP): Sudan has prepared the PRSP and formally shared with the World Bank in November 2012. It was discussed by the World Bank Staff Advisory Board and the Executive Boards of IMF and World Bank in September 2013, Sudan is currently implementing the interim work plan and initiating the process of preparing a full PRSP. (IMF,HIPC,MDRI STATISTICAL UPDATE 2016:14). The

development and sustainable economic growth based on the development and growth of the broad rules of society, which can reduce poverty, therefore the International Monetary Fund set of indicators in specific areas to measure the level of policies to combat poverty in countries, (Agriculture, natural resources, water resources, infrastructure, especially roads and railways, education, health, protection and social security). For Sudan, strengthening governance and institutional capacity is one of the cornerstones of IPRSP. Peace, security, effective public financial management and decentralization are the key elements of good governance. IPRSP considers some of the challenges that need to be addressed. Reconciliation and conflict resolution, improve human rights records, make the Commission on Human Rights, resolve land tenure issues, strengthen local governments and the expenditure management system and fight corruption the most important challenges identified. (The Sudan Interim Poverty Reduction Strategy Paper Status Report: 2016: 14)

- Economic conditions for eligibility: the implementation of structural stabilization policies of the International Monetary Fund with a record of good performance, Sudan has been achieved a good record since 1997, and is required to implement another good record before the decision point and under the executive management of the IMF and the World Bank.

- The State is eligible to borrow from the ESAF and the International Development Association (IDA) window of the World Bank, ie, the per capita income of the International Monetary Fund is less than US \$ 600 per year and the Sudan is required to become a facilitator of the poverty reduction strategy since 1999. The paper supports a poverty reduction strategy prepared by the debtor countries and approved by the IMF and the World Bank to provide funds for 10 years at 5% and grace period 2-5 years.

- Position of Sudan on HIPC with International Monetary Fund and World Bank:

According to the IMF Staff Report and the Sudan Debt Sustainability Analysis 2017, Sudan is eligible for debt relief under the Heavily Indebted Poor Countries Initiative (HIPC), but has not yet to meet all the conditions and qualifications:

- Normalization of relations with external creditors, additional of IMF, and other multilateral creditors, in particular, bilateral creditors, non-members of the Paris Club countries, it is the main step of debt relief.

- still, the large external arrears continue to impede to access external financing and severely affect development, also still arrears with the International Monetary Fund, the World Bank and the African Development Bank. (IMF, HIPC, MDRI STATISTICAL UPDATE 2016:8).

- The Debt Sustainability Analysis (DSA) proved that Sudan is still suffering from a debt crisis. Public debt and external debt ratios remain high, and most external debt is arrears. Debt ratios will be higher than the estimated GDP at the parallel exchange rate and according to with results of the previous debt, Sudan's external debt is unsustainable. In addition, all external debt indicators penetrate their thresholds under the baseline scenario, many of which remain above thresholds throughout the time horizon of the analysis. It is therefore important for Sudan to pursue wise economic policies, including a prudent borrowing strategy that minimizes non-concessional borrowing and instead relies on grants and concessional financing, and continues to mobilize support for debt relief. (IMF, DAS Report Sudan .2017 :1)

- Consultations of 2016 concluded on 7 September 2016. Sudan continues to face major macroeconomic imbalances resulting from the secession of Southern Sudan in mid-2011 and significant losses in oil and foreign-exchange-related revenues. Political efforts to increase economic growth are also constrained by international sanctions, the accumulation of large external debt and internal conflicts. Staff encouraged the authorities to further strengthen cooperation with the Fund on policies and debt payments. Sudan's arrears to the Fund fell to approximately SDR 969 million at the end of June 2016 following payments of US \$ 10 million in 2014 and 2015, US \$ 5 million in the first half of 2016. Staff encouraged the authorities to continue to pay at least adequate Sudan's accrued obligations, regular payments and increased size in line with improvements in Sudan's ability to pay. (IMF, DAS Report Sudan .2017 :33-35)

- To reach the decision point, Sudan still needs to:

1. Obtain confirmations of support for debt relief under heavily indebted poor countries from a majority of creditors representing at least 70% of the debt.

2. Establish appropriate record with good performance policies with IMF to the decision point, under the executive branch's authority to meet the policy criteria associated with the upper-tier credit arrangement.

3. Settlement the arrears with the IMF, commitment to the fully funded plan and the World Bank and African Development Bank clearing schedule to recover its eligibility to borrow from these sources.

Sudan still Resources for IMF participation in the Heavily Indebted Poor Countries (HIPC) initiative have not yet been identified. Since the IMF's debt relief costs for Sudan were not included in the original HIPC cost estimates, additional funding is needed when Sudan is ready to clear arrears and initiate the Heavily Indebted Poor Countries (HIPC) initiative.

6. debts case of Sudan after the Independence of south Sudan:

After the signing of the Comprehensive Peace Agreement (CPA) in Neifasha, Kenya, between the Government of Sudan and the Sudan People's Liberation Movement (SPLM) in 2005, create end to the war since from independence, it included the right to referendum about separation, It was inevitable that there was a need for dialogue and consensus on all issues, the most important was the issue of Sudan's external debt. The dispute over the issue of debt comes through the viewpoint that each party considers the issue of debt. The separate region (south) believe debt as part of the legacy of the past, while the mother country believes debt as a tax and a fair price to be paid by the region which wants to secede. And the two countries signed a debt-sharing agreement in 2014 on the basis of the zero standards that the mother country will bear all obligations against a promise of creditors to write off debts in the next two years. Many countries tried to resort to multiple formulas such as the division of debt according to per capita income, while others resorted to debt-related assets and each region to bear the debt as much as it wants to get assets, which Estonia did when it linked its participation in carrying the religion of the Soviet Union, From the Soviet gold reserves and foreign currency balances. It is important to refer to foreign currency and the issue of sharing it because it is one of the central issues in the division of debt. It may be an incentive for one party to accept the largest part of the debt if the bulk of the foreign exchange reserve is available. (Ahmad Adawi, 2012)

The zero-option agreement between Sudan and South Sudan 2012: In 2012, the governments of Sudan and southern Sudan reached an agreement on two options for debt forgiveness:

First Option, The zero option is known to accept the mother country "Sudan" to bear the debt for two years through which the creditors are contacted with the efforts of the international community for the final exemption from the rest of the debt. **Second option** is based on the failure of the first option to share the debt between the two countries according to criteria, including the proportion of the population. The first deadline for the agreement was finalized in 2014 and extended for another two years was end in October 2018 to find an opportunity to reach a solution to the debt issue. (IMF, DAS Report Sudan, 2017: 2)

Thirdly : empirical study & variables:

1- Variables data:

- **Exchange rate** :In finance, an exchange rate is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in relation to another currency. (O'Sullivan, Arthur; Steven M. Sheffrin 2003: 458) second definitionalso Exchange rates can be either fixed or floating. Fixed exchange rates are decided by central banks of a country whereas floating exchange rates are decided by the mechanism of market demand and supply. Another definition The foreign exchange rate is defined as the rate at which one currency is exchanged for another (Mohammad Al-Sarbiti, 2009: 942) , addition definition is known as the value of one unit of foreign currency estimated in national currency units. (Mohammad Hamzawi, 2004: 71), last definition The number of national currency units that require payment to buy one unit of foreign currency or vice versa. (Issa Ghazali, 2003: 15)

It should be noted that the Sudan has an official exchange rate issued by the Bank of Sudan, which deals with exports and imports. Therefore, it is adopted in this paper, but there is also a parallel market (the black market) and the carpenter uses it when the Bank of Sudan is unable to provide the required quantity. Affecting both foreign trade, budget accounts and the current account of the balance of payments.

Table 5 official exchange rate 2010-2017

Year	The official price of the dollar against the pound (1 dollar = x pound)			1 Pound = X vs. Dollar
	US \$ 1 = X pounds	%rise from previous year	%Rise from 2010	
2010	2.32	0.2%	-	<u>0.431</u>
2011	2.62	12.9%	12.9%	<u>0.381</u>
2012	3.57	36.3%	53.9%	<u>0.280</u>
2013	4.74	32.8%	104.3%	<u>0.210</u>
2014	5.72	20.7%	133.6%	<u>0.174</u>
2015	6.02	5.2%	159.5%	<u>0.166</u>
2016	6.39	6.1%	175.4%	<u>0.156</u>
2017	6.67	4.4%	187.5%	<u>0.149</u>

Source: Annual Reports of CBOS 2010 -2017.

After south Sudan independence in a few months in 2011, the exchange rate of the dollar against the pound rose from 2.32 pounds in 2010 to 2.62 pounds in 2011, a rise of 12.9%, but the effect of the separation on the exchange rate was clear in 2012, the exchange rate of the dollar against the pound rose from 2.62 pounds to 3.57 The increase of 36.3% due to the loss of a large part of the foreign currency resulting from the loss of oil exports to the South and despite the import controls and the prohibition of the import of some goods and stop the pumping of foreign exchange. While the increase in the trade balance resulted from the increase in gold and

oil exports to the North and the decrease in government and private imports, while the deficit In the account of transfers (invisible), as a result of this increase and weak supply of the dollar, which necessitated the need to allocate 10% of the proceeds and earnings of non-oil exports, except gold for the import of human drugs (Central Bank of Sudan, 2011 to 2014).

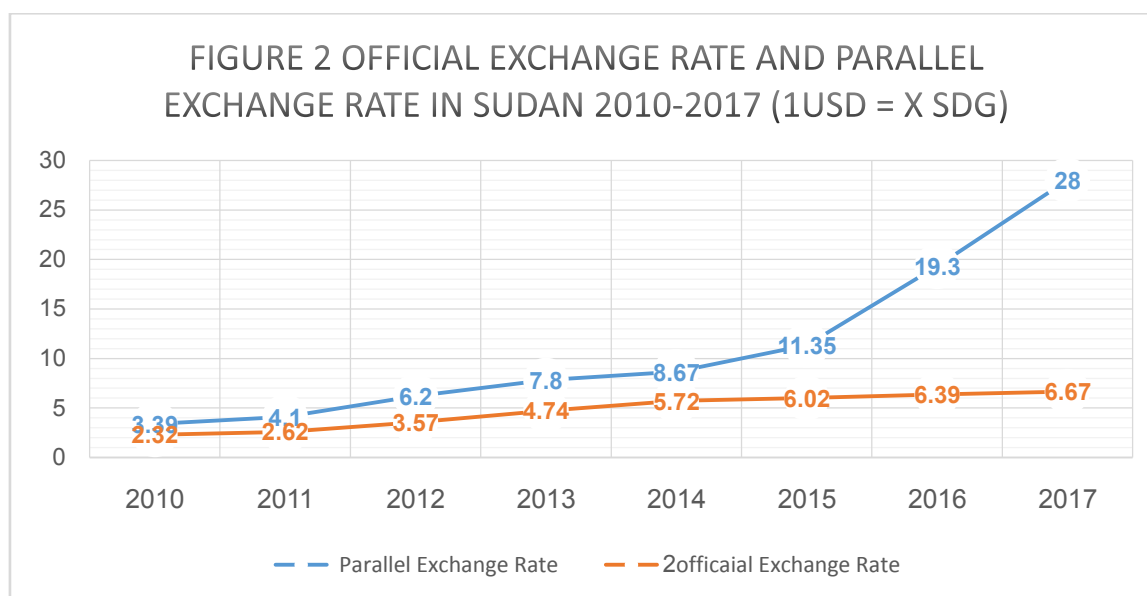
While in 2015 and 2016, the rise in the trade balance resulting from the decrease in oil exports and its value as a result of the increase in the trade balance deficit was increased by 6 pounds in 2015 and 6.39 pounds for the year 2016, an increase of 5.2% and 6.1% The crisis of the decline in international prices for oil, as well as the decline in gold exports and the increase in imports of the government and private sector and the decrease in receipts from current transfers, which prompted the Central Bank of Sudan to raise the official price to reduce the gap between the official and parallel price by 5% and allow the import and distribution of petroleum products, 10% of the proceeds of non-petroleum exports, which was allocated for the import of human drugs, which had a negative impact on the level of health and social and caused a large-scale protests, while in 2017 the dollar rose to 6.6 pounds, an increase over the previous year, 4.4% For the lifting of US sanctions for 6 months and an attempt by the Central Bank to correct the currency market so that the issuance of special notices to deal with the dollar and absorption of the exchange rate within the indicative price and provide facilities for export such as sale under the discharge for a period of 6 months and also was limited purchase and export of gold from the National Mining Bank of Sudan Center (Central Bank of Sudan, 2015 through 2017).

summarizes from the previous and compared to 2010, before the separation that the rate of increase in the dollar against the pound in the years of 2006-2010 did not exceed the rate of change from 7% of the value of the pound, while after the separation in three months in 2011, the increase compared to 2010, 12.9% , Then reached in 2012 after a year of south Sudan independence to 53.9% from 2010, and then reached in 2013 after two years of south Sudan independence to 104.3% for the year 2010, then to 133.6% in 2014 after three years,also moved to 159.5% in 2015. Finely in 2016 by a rise of 175.4%, and in 2017 after 6 years of separation by 187.5% comparing price of year 2010, which confirms that the exchange rate was significantly affected by the separation due to the loss of 90% of oil exports.

Table 6 Exchange Rate in Parallel Market in Sudan 2010-2017

Year	Parallel market price = 1 \$X pounds increase ratio	Comparing previous year	For the year 2010
2010	3.39	-	-
2011	4.1	13.89%	20.59%
2012	6.2	51.22%	82.35%
2013	7.8	25.81%	129.41%
2014	8.67	11.15%	155.00%
2015	11.35	30.91%	233.82%
2016	19.30	70.04%	467.65%
2017	28	45.08%	723.53%

Source: Certified websites (sudares.com- sudantribune.com-alnilin.com).



In 2010, before the disengagement, the dollar was 3.39 pounds, and in 2012 it reached 6.2 pounds, increase of 51.22 percent from the previous year. the previous year, then to 7.8 pounds in 2013, increase of 25.8% from the previous year and the percentage of 129.9% for the year, the price of 2010 before separation, and continue to increase until it reached 11.3 pounds in 2015, an increase from the previous year with 30.9% And 233.8% for the year 2010 any price before the separation, and also reached in 2016 to 19.3 pounds, an increase over the previous year And 70% increase over the price of 2010 by 467.6%, and finally reached in 2017 to 28 pounds, an increase over the previous year 45% and an increase over 2010, equivalent to 723.5%.

- **Inflation rate:** Inflation is a sustained increase in the general price level of goods and services in an economy over a period of time.(Blanchard, Olivier,2000).When the general price level rises, each unit of currency buys fewer goods and services ,consequently, inflation reflects a reduction in the purchasing power per unit of money – a loss of real value in the medium of exchange and unit of account within the economy.(Paul H. Walgenbach, Norman E. Dittrich and Ernest I. Hanson, .1973) The measure of inflation is the inflation rate, the annualized percentage change in a general price index, usually the consumer price index, over time. (Mankiw, N. Gregory,2002) The opposite of inflation is deflation.

Table 7 External debit & Exchange rate & Inflation rate in Sudan 2010-2017

Year	Official Exchange Rate	Exchange Rate in Parallel Market	Inflationrate	External debt
	1 dollar= x SDG	1 dollar= x SDG	%	Billion dollar
2010	2.32	3.39	13.2	39,48
2011	2.62	4.1	18.0	41,45
2012	3.57	6.2	35.5	43,19
2013	4.74	7.8	36.5	45,02
2014	5.72	8.67	36.9	46,78
2015	6.02	11.35	16.9	49,74
2016	6.39	19.3	17.8	52,38
2017	6.67	28	32.4	56,05

Source:IMF,CBOS report Data.

2- **Description of the Standard Models:** It includes the following steps (Tariq Al-Rasheed and Samia,2010: 5): Determining variables of the model / Determining the mathematical form of the model / Determining values and signals(+ or -)

Determining Variables of the model: - The researcher used to determine the variables of the standard model on several sources: The study is based on the measurement of Exchange rate(official rate, Parallel rate) & inflation rate on total external debt in Sudan for period 2010 to 2017. Therefore, the dependent variable in this study represents total external debt the independent variable: official Exchange rate and Parallel Exchange rate also inflation rate in Sudan. all data collected from world bank and IMF data ,Because it is comprehensive and authoritative and supported from inclusive of all creditors and debtors The researcher relied on the method of experimentation and dissemination to reach the mathematical functions As follows:

$$EDT = f (EXR, INF)$$

$$EDT = (B1)C + (B2)OFFEXCH + (B3)PAREXCH + (B4)INF + U$$

- **EXR**= Exchange rate is the rate at which one currency will be exchanged for another the forging currency used in these test is US dollar by (1 USD = X SDG).

- **INF**= Inflation is a sustained increase in the general price level of goods and services in an economy over a period of time.(Blanchard, Olivier,2000).

- **EDT**= Total stock of external debt of Sudan.

- **C** = constant variable.

- **U** = Errors variable.

Propositions of the parameters: In this step, theoretical predictions of the signal and size of the parameters of the model are specified Based on what is provided by economic theory or previous sources of information. According to the standard models proposed in the This study predicts the prior sign by the nature of the relationship between the dependent variables (Total stock of external debt) & independent variables (Exchange rate and Inflation rate in Sudan)as follows: - Exchange rate coefficient reference in Sudan is expected to be a negative sign due to the existence of a relationship with Total stock of external debt, also The reference coefficient of inflation rate in relation to Total stock of external debt in Sudan is expected to be a negative.

3- impact of Exchange rate & Inflation rate on External Debit of Sudan from 2010 to 2017:

Dependent Variable: EDT
 Method: Least Squares
 Date: 07/02/19 Time: 22:09
 Sample: 2010 2017
 Included observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.55E+10	9.19E+08	38.60386	0.0000
INF	-25712222	25508449	-1.007988	0.3705
OFFEXCH	1.65E+09	2.60E+08	6.347949	0.0032
PAREXCH	3.68E+08	51359034	7.163340	0.0020
R-squared	0.992282	Mean dependent var		4.68E+10
Adjusted R-squared	0.986494	S.D. dependent var		5.65E+09
S.E. of regression	6.57E+08	Akaike info criterion		43.75112
Sum squared resid	1.73E+18	Schwarz criterion		43.79084
Log likelihood	-171.0045	Hannan-Quinn criter.		43.48322
F-statistic	171.4231	Durbin-Watson stat		2.388836
Prob(F-statistic)	0.000111			

Source: result from E-Views Program.

First: Economic Estimates: The criterion of economic theory: (c) consent is (3.5) is appositve sign representing the value of the dependent variable (EDT) when the values of all independent variables in the model are zero, it is value of the EDT, without any linked to the changes in the all virables (inf,offexch,parexch). The (inf) coefficient (257) is negative and this result indicates that there is an no correlation between the changes in the INF and the change in EDT, Disaccording with economic theory. Also The (offexch) coefficient (1.6) is positive and this result indicates that there is an absolute correlation between the changes in the OFFEXCH and the change in EDT, according with economic theory. finally The (parexch) coefficient (3.6) is positive and this result indicates that there is an absolute correlation between the changes in the PAREXCH and the change in EDT, according with economic theory.

Second: Statistical Estimates: T-test used to test the significance of the estimated parameters to determine the effect of the independent variables on the dependent variable. If The probability value is measured (test for the estimated parameter with 5% if the probability is bigger than 0.05) The Zero Hypothesis is accepted and therefore the parameter is statistically insignificant, but if the probability value is less than 0.05, well rejected the Zero Hypothesis and accepted the alternative hypothesis, the result is a statistically significant relationship between the independent variable and the dependent variable results estimate as follows:

(A) Clarity significance of the constant Cat the level of significance of 5%, where it is observed from the table that the probability value (P.Value of the estimated parameter 0.000).

(B) The significance of the coefficient of INF is evident from the table, which shows that the probability value of the INF coefficient (P.Value) is 0.370 bigger than the significance level of 5%. This result indicates NO relationship with statistical significance between the External Debt andinflation rate in Sudan.

(C) The significance of the coefficient of OFFEXCH is evident from the table, which shows that the probability value of the OFFEXCH coefficient (P.Value) is 0.0032 less than the significance level of 5%. This result indicates relationship with statistical significance between the External Debt and Official Exchange rate in Sudan.

(D) The significance of the coefficient of PAREXCH is evident from the table, which shows that the probability value of the PAREXCH coefficient (P.Value) is 0.0020 less than the significance level of 5%. This result indicates relationship with statistical significance between the External Debt and Parlay Exchange rate in Sudan.

(E) Significance of a complete model determined by the value of F, where the probability value (Prob = 0.0001) is less than the significance level (5%).

Third: Model Match Quality Test: The interpretation of the model or the model's ability to interpret is defined as R2, and the interpretation is stronger when it is closer to number (1) in the model. From the estimation results table, R2 shows that about (99%) of the changes in EDT were explained by changes in Exchange rate by variables(offexch,parexch) without inflation rate, also (1%) of the changes are due to the variables not included in the model. This indicates the quality of the model.

A summary of the previous results:

- Variable of inflation rate parameter value and it is a sign is disharmony with economic theory, prove there is no statistically significant relationship between the rate of inflation and external debt, means the change in inflation does not effect on change in the external debt of Sudan, and because of this was excluded inflation rate from the equation.

- The two variables (official exchange rate and the parallel exchange rate) values of the parameters and a signs its harmony with economic theory, which confirms & prove there is a statistically significant relationship between the two variables and external debt, which means that it affects the change in the two variables (official exchange rate and the parallel exchange rate) on the change in the external debt of Sudan.

$$EDT = (3.55)C + (1.65)OFFEXCH + (3.68)PAREXCH + U$$

II. Results

1 - Statistical significance relationship and correlation between external debt and the exchange rate in its official and parallel market.

2. External debt is affected by changes in the exchange rate, in particular, the parallel exchange rate resulting from the massive decline in exports following the independence of South Sudan.

3. Bilateral debt and interest rate are representing the largest proportion of Sudan's external debt.

4. Bilateral debt from a non-member of the Paris Club and instability of economic, political situation it is the biggest problem preventing access to the HIPC decision point also it is difficult to prepare or implementing the full Poverty Strategy Reduction Paper(PSRP).

5- A huge Differences in external debt data between the Central Bank of Sudan and international institutions or creditors that prove a lack of coordination and transparency between them in preparation of data.

III. Recommendations

1- Liberalization of the exchange rate with a focus on alternatives to non-petroleum exports also create foreign investment revenues to ensure a safety level in foreign currency reserve until the strengthening of domestic production.

2- prudent management of foreign loans in the narrowest limits, loans on concessional terms and not to borrow permanently from non-members of the Paris Club.

3- creating economic partnership with creditor countries that have the largest proportion of informal bilateral debts (non-members of the Paris Club) to promote and facilitate Sudan's position in negotiating either write-off in HIPC or with respect to benefits as the largest and most significant impediment in Sudan's external debt.

4- Accurate presenting of external debt details regard to interest rates, assets, withdrawals, and uses of loans with necessary coordination with creditors to solve the variance of data to achieving real results when studied.

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