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Determinants of Foreign Direct Investment (FDI) Inflow to the Agricultural Sector in Sudan (2005 – 2015)

محددات تدفق الاستثمار الاجنبي غير المباشر للقطاع الزراعي في السودان

(2015-2005)

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CONTENTS

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مستخلص البحث

يمتاز السودان بالاراضي الزراعية الخصبه ووفرة المياة وتنوع الثروة الحيوانية, بالاضافة الي الموقع المتميز بوسط افريقيا مما يسهل جذب الاستثمار والتبادل التجاري بين الدول الافريقيه وبقية بلدان العالم. الا ان السودان يعاني انخفاض مستوى الدخل وارتفاع المستوى المعيشي الذى يؤدي الي تدني المدخرات على المستويين العام والخاص مما يشكل عائق في تكوين رأس المال والنمو الاقتصادي حيث تظهر الحاجه الي الاستثمار الاجنبي غير المباشر لسد الفجوه في الاستثمار المحلي , حيث ان الاستثمار الاجنبي غير المباشر يتأثر ببعض المحددات الاقتصاديه ومناخ الاستثمار وبيئة أداء الاعمال. هدفت الدراسة(2005-2015) لتحديد حجم ووصف تدفق الاستثمار الاجنبي, تقييم الاستثمار الاجنبي غير المباشرفي القطاع الزراعي في السودان , تقييم اثر المحددات الاقتصاديه في تدفق و حجم الاستثمار الاجنبي في السودان واخيرا القاء الضوء علي المعوقات التي تواجه الاستثمار الاجنبي غير المباشر (مناخ الاستثمار). ركزت الدراسه على بعض المحددات الاقتصاديه للاستثمار الاجنبي المباشر فى القطاع الزراعى فى السودان التى تتمثل في حجم السوق المحلى والبنى التحتيه وسعر الصرف والاستقرار الاقتصادي والكهرباء والماء بالاضافه الى مناقشة مناخ الاستثمار. مناخ الاستثمار هو مجموعة العناصر المحدده للموقع والتى تهيئ الفرص وتحدد الحوافز للشركات لتشجيعها على الاستثمار الذى يخلق فرص العمل و يساعد على التوسع فى مجالات الانتاج والخدمات المختلفه. تبين من خلال البيانات التى تم جمعها ان متوسط حجم تدفق الاستثمار الاجنبي المباشر فى القطاع الزراعي في السودان بلغ حوالي 966.3 مليون جنيه سوداني خلال الفتره (2005-2015) وان اكبر حجم وصل اليه هو 326.8 مليون جنيه سوداني في عام 2012 بينما كان اقل حجم سجله في عام 2005 وقد بلغ 38.9 مليون جنيه سوداني. لتحديد العناصر التي تحدد تدفق الاستثمار الاجنبي المباشر في القطاع الزراعي في السودان تم تصميم نموذج قياسي واجريت عملية الانحدار حيث اتضح ان المحددات الاقتصاديه التى ادخلت لها تفسر نسبة 32% خلال فترة الدراسه (2005-2015) وبذلك تعتبر المحددات او المتغيرات غير معنويه لكنها تؤثر فى تدفق الاستثمار الاجنبي المباشر في القطاع الزراعي في السودان. ولكن المتغيرات التي لم يتضمنها النموذج لها تأثير قوي في تدفق الاستثمار الاجنبي المباشر في القطاع الزراعي مثل ملكية الارض وتكاليف الانتاج والامن والاستقرار السياسي والترتيبات القانونيه والاداريه والتى توجد صعوبه بالغه فى الحصول عليها.

التوصيات :-

1- على الحكومه تحسين البنيه التحتيه للنقل والاتصالات وتوفير الكهرباء والماء.

2- زيادة الميزانيه المخصصه للقطاع الزراعي لتطوير البنيات التحتيه الاساسيه والخدمات الزراعيه.

3- رفع كفاءة الموظفين في قطاع الاستثمارمن خلال التدريب وتبادل الخبرات.

4- تسهيل الاجراءات القانونيه والاداريه الخاصه بالاستثمار الزراعي.

5- تقليل نسبة التضخم الذي يمثل الاستقرار الاقتصادي للبلاد وذلك من خلال اصلاحات اقتصاديه شامله.

Abstract

Sudan has a fertile agricultural land, large amount of fresh water and variety of animal resources. This beside it's distinguishable geographic location in Africa. Nevertheless Sudan is characterized by low per capita income and high dependency ratio, therefore, savings is very low in both public and private level which is constraining capital formation and economic growth, so foreign direct investment is needed to bridge the wide domestic investment- gap, but the foreign direct investment is affected by economic determinants, investment climate and doing business environment. The study aims to describe the foreign direct investment in Sudan during (2005-2015), estimate the share of agricultural sector from foreign direct investment ,estimate the effect of some economic determinants in the inflow of foreign direct investment and determine the constrains facing the inflow of foreign direct investment .The study focused on some economic determinants affecting foreign direct investment which include domestic market size, infrastructure, exchange rate, economic stability and electricity and water as well as investment climate. The investment climate is the set of location – specified factors shaping the opportunity and incentives for the firms to invest, create jobs and to expand. The average rate of FDI inflow in agricultural sector to Sudan as the data has shown was 966.3 million SDG. during period (2005-2015). The maximum amount of FDI for agricultural sector was 326.8 million SDG. in the year 2012, but the minimum size was in 2005 and it was 38.9SDG. To test the economic determinants of FDI to agricultural sector in Sudan, a regression model was formulated . The adjusted R is 0.32 which means that the variables included in the model explained 32% of the inflow of FDI to agricultural sector in Sudan during the period of the study (2005-2015). The other variables are related to doing business environment which are not included in the model strongly affect the inflow of FDI to agricultural sector in Sudan as indicated by the results of the regression and analysis. Although, the variables are very important but there are difficulties in obtaining them. These variables include the ownership of agricultural lands, cost of production, security, political instability, legal and legislative laws and regulations.

Recommendations :-

1 – The government has to improve infrastructural facilities specially transportation, communications, electricity and water supply .

2 – Budgets for agricultural sector should be increased to rehabilitate basic infrastructure and agricultural services .

3- Capacity building for employees through training is essential.

4 –Procedures for agricultural investment should be simplified.

5 – Major economical reforms are needed to reduce the inflation rate which represents the economical stability of the country.

CHAPTER ONE

1-1 INTRODUCTION

Sudan is always described as one of the biggest agricultural countries in the world .It has millions of hectares of arable land and less than 20% is cultivated, water resources (surface Nile and underground Nile) ,forests, animal population (livestock) are under way to make Sudan a self-sufficient in agricultural production ,and one of the world's potential breadbasket . Sudan is nicknamed of the Arab world basket as it counts 45% of arable land of the Arab world (www.worldbank.org).

Accordingly, the agricultural sector occupies a pivotal role and a leading position among the various economic sectors. It contributes on average of 40% of the country's GDP, and provides stable living conditions for about 70% of the population, employees and value added source. The agricultural sector produces 90% of food requirements and a source of raw materials for agro-industry sector. It also has considerable share of non-oil revenues.

Therefore, the agricultural investment is considered as a motivating tool for agricultural development as it offers a sufficient funds for both economical and social growth, so the efficient and effective agricultural investment will probably help to decrease imports and improve the commercial and payment balance.

Since early 1990`s Sudan has made a turning – point decision in the country's development strategy to build a market- oriented economy. The government of Sudan, while attempting to mobilize all domestic resources , pursues the policy of depending on international economic relations to seek new opportunities for the country's development see table 1.

Important efforts were exerted to attract foreign direct investors to contribute to the development of the country. Hence, several policies were set in economic, political, legal and administrative fields to attract inflow of foreign direct investment (FDI). Inflow of Direct Investment (FDI) offers the potential for the country to gain benefits such as new capital formation, technology transfer, employment creation, market access and skill and management techniques.(Hassan, 2008)

Table 1:-Contribution of Foreign Direct Investment (FDI) to Gross Domestic Product GDP(%) during the period (2005 – 2015)

Year	GDP (US$)Million	Net of FDI (US$)Mill.	Growth rate of FDI(%)	Contribution of FDI to GDP(%)
2005	3527.4	1561.7	55.8	44
2006	45472	3534.1	53	7.8
2007	56565	2425.6	-(45)	4.3
2008	64807.8	2600.5	7	4
2009	66294	1816.2	-(30)	2.7
2010	68527.2	2063.7	13.6	3
2011	69692	598.8	12.1	0.2
2012	55321.1	2465.4	312	4.4
2013	62687.3	3094.4	20.3	4.93
2014	82216.9	1251.3	-(14.73)	1.5
2015	92339.1	1736.8	27.9	1.9

Source:-1 - Central Bureau of Statistics

       2 – Central Bank of Sudan

1-2 Research problem

In spite of the natural resources that Sudan owns, it is characterized by low capital and high dependency ratio, therefore savings are very low in both public and private sectors constraining capital formation and economic growth. Under such conditions the need for foreign savings is inevitable to bridge the wide gap of domestic investment saving. Major investment constrains are weak basic infrastructures such as transportation, communication, electricity and water, political and security stability. Beside economical policies which include taxation, pricing and inflation rate which

determine the profitability of the invested enterprise . The research tries to answer the following question. *What are the economic determinants of FDI inflow for agricultural sector in Sudan?*

1-3 Importance of the research :-

The importance of study comes from the importance of inflow of FDI to the agricultural sector as well as the inflow of FDI to Sudan's economy.   Foreign investment became very important for the development of the less developed countries during the recent years. It provides the necessary funds for establishment of vital economic projects. FDI inflow to a given country depends on many factors. These factors are almost similar to each other in all developing countries and Sudan is not an exception .The study also attempts to verify applicability of hypothesized of economical determinants of FDI on agricultural sector. It helps to indicate the policies measures for attracting and maintaining sustainable inflow of FDI to agricultural sector as well as for the Sudan economy.

1-4 The specific objectives of the Research :-

The specific objectives of the Research aims to :-

1- Describe the inflow of the foreign direct investment to the Sudan during (2005-2015).

2- Estimate the share of the agricultural sector from the foreign direct investment of the Sudan.

3- Estimate the effect of some factors in the inflow of the foreign direct investment in the agricultural sector.

4- Determine the constrains facing the inflow of foreign direct investment .

1-5 The Hypotheses of the Research :-

According to the data from Sudan's official publications during the period 2005-2015:-
The study hypothesized that

1-The inflow of the foreign direct investment to Sudan in different economic sectors was high.

2-The share and value of agricultural sector from the foreign direct investment to Sudan was low .

3-The effect of some economical factors in the inflow of foreign direct investment as well as agricultural sectors was high.

3

4- Investment climate is a major constrain facing the inflow of foreign direct investment to Sudan

1-6 Research Methodology:-

The study will use secondary data which cover the period during (2005 – 2015). The data will be obtained from Central Bureau of statistics, the Central Bank of Sudan annual reports , and Ministry of Investment then Descriptive Statistics and Multiple Regression will be used to answer the question that full fill the objectives of the study.

1-7 Organization of the research :-

The study consists of five chapters ,chapter one includes the introduction , chapter two deals with the theoretical framework while chapter three reviews the investment climate in Sudan . The methodology ,data analysis and empirical results are discussed in chapter four . Chapter five conclusion with summary of study .

CHAPTER TWO

LITERATURE REVIEW

1- The concept of foreign direct investment (FDI)

Foreign Direct Investment (FDI) attractiveness is considered one of the main fields of competition between many countries, both developed and developing, especially after the financial and economic global crisis, the recent political development in the Arab countries, the euro zone downturn, the recession witnessed by international investment markets, along with latest trends of foreign capital, particularly the upward of inward flows to developing and transition countries .

This competition is the result of the central role played by FDI in the process of development and its sustainability, which goes beyond bridging the current account deficit or meeting local needs for financial resources . It includes supporting the movement and sustainability of commercial merger, integration and exchange between world countries, which gives international capital flows a strategic importance as a driving force for developing economies, including Sudan in order to enhance its capacity to grow, interact with global economy and efficiently participate in the international production process. The rising attention of Sudan as a developing country towards the competitiveness of its exports in international market is additional reason for seeking to attract FDI, given its direct impact on improving qualitatively and quantitatively the level of export and gaining technical and marketing know-how that support integration with the rest of the world.

1-2 Definition (FDI)

Internationally (FDI) is defined according to the International Monetary Fund Balance of Payment Manual published in (1993) as being the aim of obtaining a lasting interest by a resident entity of one economy (direct investors) in an enterprise that is resident in an other economy (the direct investment enterprise). The lasting interest implies the existence of a long-term relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of the latter .   The direct investment is not limited to the initial or original transaction that led to the establishment of the fore mentioned relationship between the investor and the enterprise ,but also include all subsequent transactions between the two, and all transaction among affiliated enterprises, whether contributing

or not . This definition is consistent with the definition of United Nation Conference on Trade and Development (UNCTAD)and the concept issued by the Organization for Economic Cooperation and Development (OECD).

From statistical point of view based on the previous definition, FDI capital transaction includes transactions that lead to the establishment (positive value of flows)or cancellation (negative value of flow) of investment, transaction that lead to preservation of investment sustainability , those that widen their scope and those that lead to their liquidation. When a non-resident, who had previously had no equity in a resident enterprise, purchases 10% or more of the shares or voting power of that enterprise, the price of equity holding acquired in addition to any invested capital should be recorded as direct investment when a non resident holds less than 10% of the share of an enterprise as portfolio investment, and subsequently acquires additional shares resulting in a direct (10% or more) only the purchase of additional share is recorded as direct investment. The holding that were acquired previously should not be re classified from portfolio to direct investment in the balance of payments, but the total holding should be re classified in the international investment position. (Dhaman Investment Attractiveness Index DIAI).

1-3 Theories of foreign direct investment

Numerous theories have developed in FDI literature ,these theories have been classified as microeconomic theories and macroeconomic theories of FDI. Microeconomic theories focus on the characteristics of a firm that influences its decision making processes. These include market imperfection, market power and investment location theories.

Macroeconomic theories of FDI seek to investigate on a country's characteristics that explain FDI inflow within and across countries e.g. internalization and product cycle theories .These theories can be classified as follow :-

1-3-1 Production cycle of Veron :-

Production cycle theory is developed by Veron in(1966) was used to explain certain types of FDI made by U.S. companies in western Europe after the second world war in the manufacturing industry.

Veron believes that there are four stages of production cycle: Innovation, growth, maturity and decline. According to Veron ,in the first stage the U.S. transitional companies create new innovative products for the local consumption and export the surplus in order to serve the foreign markets ,so when the demand has increased in Europe, the American firms began to export , having the advantage of technology on international competitors , as the product develops also technology becomes known. European firms have started imitating American products that U.S. firms were exporting to these countries. The U.S. companies were forced to perform production facilities on the local market to maintain their market share in those areas. This theory managed to explain certain types of investment in Europe made by U.S. companies between(1950 – 1970) , although there are areas where American have not possess the technological advantage and FDI were made during that period .

1-2-3 The theory of exchange rate on imperfect capital markets

The theory tries to explain FDI ,initially . The foreign exchange risk has been analyzed from the perspective of international trade . Itagaki (1981) and Cusham (1985) analyzed the influence of uncertainty as a factor of FDI. The empirical analysis made by Cusham shows that real exchange rate increase stimulated FDI made by U.S., while foreign currency appreciation has reduced American FDI. Cusham conclude that the dollar appreciation has led to a reduction in U.S. FDI by 25% , however currency risks rate theory cannot explain simultaneously FDI between countries with different currencies .

1-3-3 The internalization theory

This theory tries to explain the transnational companies and their motivations for achieving the FDI. The theory was launched by Casson in (1937) in a national context and Hymer in (1976) in an international context . Hymer identifies two major determinants of FDI . One was the removal of competition, the other was the advantages, which some firms possess in a particular activity. Hennart (1982) develops the idea of internalization by developing models between two types of integration: vertical and horizontal. Hymer is the author of the concept of firm-specific advantages and demonstrates that FDI takes place only if the benefits of exploiting firm specific advantages outweigh the relative costs of the operations abroad. According to Hymer (1976), the Multinational Enterprise (MNE) appears due to the market imperfections that lead to divergence from competition in the final product

market. Hymer has discussed the problem of information costs for foreign firms respected to local firms , different treatments of government, currency risk . The result meant the same conclusion: Transnational companies face some adjustment cost when the investments were made abroad, so the FDI is a firm-level strategy decision rather than a capital market financial decision.

1 -3 -4 The eclectic paradigm of Dunning :-

The eclectic Theory developed by professor Dunning is a mix of three different theories of FDI (O-L-I)

1–3–4–1 "O" from ownership advantages

This refer to intangible assets, which are at least for a while exclusive possesses of the company and may be transferred within transnational companies at low costs , leading either to higher incomes or reduced costs. However, Transnational Corporation (TNCs) operations performed in different countries face some additional costs .

Thereby successfully enter a foreign market a company must have certain characteristics that would triumph over operating costs on a foreign market. These advantages are the property competences or the specific benefits of the company. The firm has a monopoly over its own specific advantages and using them abroad leads to higher marginal profitability or lower marginal costs than other competitors (Dunning 1973 – 1980 – 1988) .There are three types of specific advantages :-

(**A**) Monopoly   advantages in the form of a privileged access to markets through ownership of natural limited resources, patents and trademarks.
(**B**) Economies of large size such as economies of learning, economies of scales and scope , greater access to financial capital .
(**C**) Technology, knowledge broadly defined to contain all forms of innovation activities .

1-3-4-2 "L" from location

When the first condition had been fulfilled, it must be more advantageous for the company that owns them to use them itself rather than sell them or rent them to another foreign firm. Location advantages of different countries are key factor to

determine who will become host country for the activities of transnational corporation . The specific advantages of each country can be divided onto three categories:-

(**A**) The economic benefits consist of quantitative and qualitative factors of production, cost of transport, telecommunication, market size etc... .

(**B**) Political advantage :- common and specific government policies that affect FDI flows .

(**C**) Social advantages:- Includes distance between the home and the home countries , cultural diversity, attitude towards the stranger etc. .

1-3-4-3- "I" from Internalization :-

Supposing the first two conditions met, it must be profitable for the company to use these advantages in collaboration with at least some factors outside the country of origin (Dunning 1973, 1980, 1988) This third characteristic of eclectic paradigm (OLI) offers a frame work for assessing different ways in which the company will exploit its powers from the sale of goods and services to various agreements that might had been signed between the companies ,as cross-border market internalization benefits is higher, the more the firm will want to engage in foreign production rather than offering this right under license. Therefore, the objectives and strategies of the firm, magnitude and pattern of production will depend on the challenges and opportunities offered by different types of countries (FDI)(theories quoted from (Denisia 2010).

1-4 Types of Foreign Direct Investment:-

Dunning (1993) described three main types of FDI based on the motive behind the investment from the perspective of the investing firm:-

The first type of FDI is called market-seeking, FDI which aims to serve local and regional markets. Its also called horizontal FDI, as it involves replication of production facilities in the host country. Tariff jumping or export – substituting FDI is a variant of this type of FDI, because the reason for horizontal FDI is to better than to serve a local market by local production, market size and market growth of host country play important role. Obstacles to a accessing local market, such as tariffs and transport cost also encourage this type of FDI.

The second type of FDI is called resource seeking:- when firms invest abroad to obtain resources which are not available in the home country such as natural resources ,raw material or low-cost labor, particularly in manufacturing sector, when multinationals directly invest in order to export , factor-cost considerations become important . In contrast to horizontal FDI, vertical or export - oriented FDI involves relocating parts of the production chain to the host country. Availability of low-cost labor is a prime driver for export - oriented FDI .Naturally, FDI in the resource sector such as oil and natural gas , is attracted to countries with plentiful natural endowments.

The third type of FDI is called efficiency seeking; it takes place when the firm can gain from the common government of geographically dispersed activities in the presence of economies of scale and scope.

1-5 Empirical Determinant of FDI

Most variables used in empirical studies appeared in the UNCTAD`s (1998) classification of the determinants of inward FDI.

Froot and Stein (1991)claimed that the level of exchange rate might influence FDI because depreciation of the host country currency against the home country currency increase the value relative wealth of foreigners, thereby, increasing the attractiveness of the host country for FDI as firms are to acquire assets in the host country relatively cheaply. Thus a depreciation of host country currency should increase FDI into the country and conversely an appreciation of the host country currency should decrease FDI inflow into the country . Against this argument ,it is often claim that the price of assets should not matter but only their rate of return when the host country currency depreciates to the home country currency. Since price of assets and return on both down exchange rate movement should not affect FDI .

Singh and Jun (1995) empirically analyzed various factors including political risk, business condition and macroeconomic variables that have influenced FDI flows to the developing countries. They showed that political risk and business-operating conditions have important determinant of FDI for the countries have horizontally attracted substantial foreign capital flows. For the countries with relatively low FDI, a key determinant was the degree of sociopolitical instability, proxies by work hours lost in industrial dispute. They also observed that a country orientation towards export is the strongest variable for explaining why a country attracts FDI .

Stephen (1997)observed that the GDP ,exports import infrastructure and political risk have significant influence in decision of Multinational Corporation (MMC) to invest abroad.

Chakrabarti (2001) argued that the size of an economy is an important determinant of FDI inflows into developed and developing economies alike. The size of the market, however might be less influential or even insignificant when FDI is invested to exploit the host country as solely as production base to reap profits from the cost advantage of that economy by exporting more competitively to markets at home or abroad. A second determinant is in the movement in the price level.

A large and uncontainable increase in the price level or a high inflation might reflect instability of the macroeconomic policy of the host country. This type of instability creates uncertainty in the investment environment. High inflation discourages FDI for re-exportation since the relative cost of production in the host country rises.

In contrast, falling price level and the resulting contraction in economic activities may trigger a deflationary spiral and eventually bankrupt the host country`s firms. This can induce the local investors to sell off their interests in the host country`s companies to foreign investor at low price thereby expanding the inflow of FDI.

A third frequently noted factor is the strength of the host country`s currency measured by the exchange rate. A depreciation of the host country`s currency might attract FDI for two reasons. First, a depreciation of the host country`s currency renders the shares of host country relatively cheap. Second, in cases where the FDI is invested for re-exporting to markets to home or in third country, a depreciation of the host country`s currency will enhance the competitiveness of producing in the host country, thereby raising the investors wealth .In cases where FDI is invested for the sale in the host market, on other hand, a depreciation of the currency might hinder FDI inflow. Again, there are two reasons for this, as FDI is projected over the long-run horizon, the stream of returns of investments might fall in terms of the currency. Second, a depreciation of the currency lowers the relative purchasing power of consumers in the host country. All in all the effect of the exchange rate level on FDI inflows are rather ambiguous.

The volatility of the host country`s exchange rate can also be a notable determinant of the extent of incoming FDI. Instability of a currency has often been identifying as a significant impediment for the inflow of FDI. Income stream from a highly volatile currency area is associated, in the long-run, with high exchange risk(Chakrabarti, 2001). FDI investors lack the security of portfolio investors as the latter can reduce the risk of exchange rate variability by hedging through the derivative market in the

.

Short run. As hedging is impossible in the long-run, FDI investor must pay much closer attention to exchange rate volatility. This factor is a particularly robust determinant for risk-averse investors.

On the other hand, polices of maintaining stable nominal exchange rates very often lead to a loss of price competitiveness, leading to another condition which discourages FDI inflow in the presence of comparatively high inflation as stable nominal currency hides accumulated application of real currency and therefore pushes up real prices. In contrast, a less restrictive policy towards volatility of nominal exchange rates makes it possible to eliminate trends in real exchange rates and maintain price competitiveness. Hence, using the stability of exchange rates as an incentive to attract FDI inflows a trade-off between volatility and price competitiveness.

Finally, the instability of the host country`s currency tends to reduce FDI inflow by discouraging the repatriation of investment returns. On the contrary, a positive relationship between FDI inflows and exchange rate volatility might be found if investment in the local market is used as a substitute to exporting when variance is judged as too high. On way to escape the vagaries of the currency market is to direct FDI into local market activities in the short-run larger volatility.

Jordan (2004) claims that good quality and well developed infrastructure increase the productivity potential of investment in a country and therefore stimulate FDI flow towards the country.

Previous Studies:-

Using annual data covering the period (1990 – 2002)Abeker (2004) examined the role of FDI in the development of the industrial sector in Sudan . The results revealed that the cumulative effect of FDI includes increasing the number of industries , increase the size formation of industrial network. In addition to raising the contribution of the industrial sector in the GDP by enhancing technology transfer , improving administrative techniques such as skills and increasing access to international markets. These benefits contribute significantly to development and growth in the national economy. Abeker(2004) argued that the effect of FDI depends on the host country policies , these benefits could be maximized when the government provides guidance and remove the difficulties and obstacles out of the flow of FDI .

Mohammed (2007) examined the economic determinant of FDI in Sudan during the period of (1990 – 2007) . Her results suggested that inflation rate and real per

capita GDP were the major determinants of FDI flow in Sudan , real per capita has positive effect on FDI . While the impact of inflation was negative . In addition she observed that because of strong correlation between the exchange rate and inflation rate, the former could reflect FDI through the later . These results support the contention that the growth and economic stability could have significant positive effect on the flow of FDI .

Abbas et al, (Evaluation of foreign direct investment inflow in Sudan:- An empirical investigation 1990 – 2013). The study aimed at examining the main factors that may influence FDI in Sudan . The regression results suggest that the transportation and communication , exchange rate, and oil exploration are the major determinants of FDI in Sudan , also they observed that the growth rate of real gross domestic product (RGDP) and trade openness play a significant role in effective FDI.

This result supports the contention that improves the work environment and economic stability could have significant positive effect on the inflow of FDI.

<p style="text-align:center">CHAPTER THREE</p>

<p style="text-align:center">Investment climate in Sudan</p>

3-1 : Preface :-

The investment climate in general is a set of location-specific factors shaping the opportunities and incentive for a firm to invest productively, creates jobs and expand. Government policies and behaviors have a strong influence, their impacts on cost, risks and barriers to competition.

A good investment climate fosters productive private investment and it is an engine for growth and poverty reduction. It creates opportunities and jobs for people. It expands the variety of goods and services available and reduces their costs to the benefit of consumers .It supports a sustainable source for taxes, revenues to fund other important social goals.

According to **Arab Investment Guarantee Corporation (AIGC)**, investment climate "is a combination of surrounding circumstances under which investment process takes place. These circumstance may have positive or negative impact on the investment opportunities, mechanism and trends. These situations include political, economical, social, security, legal and administrative situations. These elements are usually treated by (AIGC) as overlapped and correlated, some are permanent or almost permanent , but most of them have a changing nature , so they affect and be affected by each others creating new situation-interactively or in falling-a part –with different implication with eventually by attracting or un-attracting to capitals . (Ali, 2004)

3-2- Environment of investment in Sudan

This part reviews the conditions of investment in Sudan. It consists of political and security situation, economic and financial aspects, laws and legislative factors, infrastructures and administrative environment and procedural conditions.

According to the Ministry of Investment in Sudan, the following are the main factors that affect investment climates components in Sudan .

3-2-1 Political and Security situation

Political and security stability is considered as one of the pre-requisite requirement of FDI attraction.

<p style="text-align:center">14</p>

Relation of a country with the international community and its role in the international order affects to a great extent capital inflow to that country .Since the country ,from which the capital is transferred will influence the direction of investors to certain countries.

The situation is different inspite of security and political instability and sanctions the United States imposed on the country since early 1990`s which affects the inflow of FDI to Sudan .

Sudan adopted a number of reforms including singing of the Comprehensive Peace Agreement (CPA) in 2005 , Darfur Peace Agreement in may 2006 and Eastern Peace Accord in October 2006. Sudan also cooperate with international community in terrorism combating , however, the Darfur conflicts hampered restoration of security and stability that make investors hesitant to invest in Sudan . The relative stability that Sudan has witnessed during few past years contributed to the attraction of investment from Arab countries as well as from other foreign countries in oil fields, mines, services (banking), transportation and agricultural sector .

3-2-2 Economic and Financial Situation :-

Sudan`s economy has witnessed a crucial and comprehensive development during 1990`s and early 21st century which resulted in big changes in the structure and performance of the economy.

The basic feature of these developments is represented in the philosophy which was adopted by Sudanese authorities since early 1990`s for restructuring the economy to be marketed- oriented, encouraging personal initiative, reducing government role in the economy and creating conducive atmosphere for the private sector to play its role in resources exploitation and mobilization of the economy stagnation .

Accordingly, economic liberalization was adopted in 1992which was resulted in privatization of public institutions including the general telecommunication and many of industrial, agricultural and services enterprises and removal of monopoly by some public sector foundation over some economic activities e.g. trading in oil seed, livestock, marketing …etc. These polices coincided with economic reform programmes in the field of taxes, exchange rate and banking services . All these changes have led to the improvement in the economic performance .

3- 2-3-1 :-Legal and Legislative reforms :-

The government adopted a number of legal and legislative reforms which has greatly contributed to improvement of the legal environment. The reforms could be outlined as follow :-

Investment and Encouragement Act(1995) replaced by 1996 act, giving extra exemptions and concessions to investors. The act was amended in 2000 and 2003.

These changes are not always preferable unless they are in line with the interest of the investor as continuous changes in investment legislations might send negative message to the investors that the investment environment is not stable.

The act (2003) contains many advantages that protect the assets of the investors from confiscation and nationalization and ensure the transference of their profits abroad at any time. The act also gives the investors the right to own project`s assets including the land on which an investment project is established.

Moreover, it grants investors exemptions from profit tax as well as custom duties for about 10 years. Many reforms were also included in judicial and justice system ensuring fair filing of suits for the two parties in case of disputes.
The Investment Act guarantees the following basic merits:-

1 – A strategic project (infrastructures` project) enjoys advantages of exemption from corporate profit tax for a period not exceeding 10 years from the starting of commercial production or activities.

2 – A non-strategic project enjoys the advantages of exemption from corporate profit tax for a period not exceeding 5 years from the starting of commercial production or activities.

3 – Amendment of Taxations Act by reducing corporate profit tax and rebuilding of industrial sector from 30% to 10% .

4 – Full exemption from custom duties for the project`s imports .

5 – A project is granted preferential advantage if it characterized by any of the following features

i – Less developed area – oriented investment .

ii – Helps exports development capacity of the country.

iii – Helps in realization of intergraded rural development.

iv – Creates job opportunities for labours .

v - Helps in promotion of scientific and technological research .

vi – Re-invest its profits .

6 – Guarantees and facilities for movement of capital and remittance of profits.

7 – Projects should not be subjected to partially or wholly nationalization or confiscation.

8 – Permission to open foreign currency account.

9 – Permission to transfer savings of foreign workers.

3-2-4- Infrastructure

Poor infrastructure is considered as one of the most negative feature of investment climate in Sudan . There is no effective network of roads bridges and modern airports facilitating transportation of goods and people between different cities . Sudan also lacks energy which is necessary for production operation .

However, efforts are being exerted to improve the situation of infrastructure such as the means of telecommunication and transport. The government of Sudan is trying to establish modern utilities required to cope with the prospective development in oil exploration and peace realization in Sudan .

These efforts include projects of roads, railways, shipping fleet and airports, telecommunication, electricity stations, water purification, drainage network…etc. . Also, there is a new orientation to enhance conditions of the existing industrial cities beside establishment of new others equipped with all essential services and facilities to the investors.

Efforts are also being exerted to create advanced banking and insurance sector, educational and health utilities to provide excellent services to the nationals and foreigners . Beside establishment of building and construction sector to help in providing commercial and residing estate satisfying requirement of foreign investors .

With the efforts being exerted for encouraging FDI inflow to Sudan, government of Sudan established free trade zones in Sawakin and El-Gaily area . The laws of these areas comprise the following concessions and advantages :-

1 – Full right of ownership.

2 – Full freedom for transference of capitals and profits.

3 – Removal of restrictions on foreign currency exchange.

4 – Full exemption from income tax for foreigners.

5 - Full freedom of employing local or foreigners labours.

6 – Full tax exemption for the working companies for renewal 15 years.

7 – Facilitating procedures of granting entry visa and residence.

8 – The right to benefit from the international agreements with government of Sudan signed with the rest of world countries.

i – Signing of a number of agreement with neighboring countries in the field of inter-trade and commercial protocols .

ii – Joining of Sudan to the Organization of Common Market of East and South Africa (COMESA)

iii – Sudan is endeavoring to join World Trade Organization .

v – Sudan has consolidated corporation relation with the regional and international institutions on the investment affairs .

3- 2 -5 Procedures of investment :-

The procedures of investment is considered as an important factor for encouraging investment. It refers to the required procedures for licensing establishment of an investment project, setting up investment map and specification of projects and priorities of implementing them.

As the result of such efforts, the Federal Ministry of Investment was issued by Republican Decree No.24 for 2002. The ministry is responsible for formulating strategies, polices, goals and programs aiming at development of local and foreign investments in Sudan as follow :-

i – Setting up of strategies, policies and priorities of investment .

ii – Implementation of investment- encouragement act.

iii – Preparation of Federal and state investment map.

iv – Enhancement of investment climate and facilitation of the related procedures .

v – development of investment promotion system .

vi – Monitoring and evaluation of implementation of investment policies .

vii – Directing of investment to the project of infrastructure.

viii – Any other tasks to be assigned to the ministry by the council of ministers to enhance investment climate.

The ministry of investment provides different services among which the following are the most important :-

1 – Issuance of investment license through the one-shop-stop system in a very short period of time.

2 – provision of necessary information to investors on investment projects in Sudan .

3 – Providing the targeted parties with promotion materials.

4 – Promoting investment and strengthening economic relation with other nations through matual visits, delegation and participation in conferences workshops and economic forums.

5 – Development of relations with international organizations, corporations and governments of other nations with a purpose to develop the investment and to exchange information.

6 – Organizing of symposiums and forums for investors to acquaint them with advantages of investing in Sudan .

3 – 3 – The Unified Outlet System (one-stop-shop)

The Ministry of Investment has implemented the unified outlet system by bringing together in one place all concerned government circles such as land authorities, custom authorities, tax chambers, commercial register to perform the following (Ministry of Investment Brochures):-

1 – Receiving license application and project technical and economic feasibility studies.

2 – Issuance of initial approval following the agreement of the concerned technical committees.

3 – Issuance of a final license within 72 hours of receiving complete documents including concessions, exemptions and facilities granted to the investors .

4 – Handling over the land required for the project establishment.

5 – Issuance of import license concerning the projects requirement in accordance with a specified list of needs.

The establishment of the investment and the introduction of unified outlet system helped a lot in procedure`s simplification compared to the practices in the last era.

This system saves many efforts and time that are to be taken to receive license for a new investment project. But some constraints have not been removed yet due to the lack of qualified and well trained staff to implement investment policies.

CHAPTER FOUR
Results and Discussion

4-1 Preface :

To test the economical determinants of foreign direct investment inflow to agricultural sector in Sudan during (2005 – 2015), multiple regression model was used. The equation includes the FDI as a dependent variable and the growth rate of GDP, exchange rate (EX), inflation(economic stability) (R), transportation and communication (TR),Electricity and water as explanatory variables as follow

$$FDI = F (GDP, EX, R, TR, EW)$$

Where :-

FDI = foreign direct investment in agricultural sector

EX = exchange rate (Sudanese pound per US$)

GRGDP = growth rate of real growth domestic product

TR = transportation and communication

R = inflation rate (economic stability)

EW =electricity and Water

It is hypothesized that FDI inflow to agricultural sector is influenced by the exchange rate (EX), growth rate of GDP, inflation rate (R) and transportation and communication, electricity and water (EW).

The effect of exchange rate on FDI is expected to be positive , since the depreciation of the host country's currency is expected to increase the relative wealth of foreigner. This in turn make firms more able to acquire assets in the host country relatively cheap, thereby encouraging the attractiveness of host country's currency for FDI, a depreciation of host country`s should increase the flow of FDI into the country.

Investment decision depends on large extent on provision of an adequate and reliable infrastructure services such as transportation and communication. The

transportation and communication have a positive effect on FDI because the lack of efficient transportation and communication will reduce FDI.

Growth rate of gross domestic product (GDP) encourages more FDI inflow by providing incentive for FDI. In addition, economic theory suggests that an increase in FDI will lead to an increase in the total investment and this will increase the growth rate of real gross domestic product , so that the effect of growth rate of (GDP) on FDI is expected to be positive effect .

Instable inflation rate is used as an ancillary variable to increase overall economic instability which is expected to decrease the returns of capital in the host country and affect the profitability of FDI negatively , so acting as FDI deterrent .

Electricity and Water have positive effect on FDI because the lack of sufficient electricity and water will reduce FDI.

Table 2: Number of foreign and foreign joint certified investment projects in different economic sectors (2005 -2015)

Years	Industrial sector	Services sector	Agricultural sector	Total
2005	132	193	8	333
2006	183	147	18	348
2007	139	113	8	260
2008	85	75	9	169
2009	96	57	14	167
2010	106	104	15	225
2011	16	23	6	45
2012	17	12	10	49
2013	36	37	21	94
2014	71	20	14	105
2015	44	43	18	105
Total	925	824	141	1890
Share%	48.9%	43.6%	7.5%	100%

Source:-Central Bureau of Statics and Federal Ministry of Investment

The agricultural sector has the lowest percent of all other economic sectors due to the problems that face it such as the cost of production, lack of infrastructure and land ownership.

Table3:Value of foreign direct investment (U.S.$ million) in Sudan in different economic sectors (2005 – 2015) .

Year	Industrial sector	Service sector	Agricultural sector
2005	908	2078	16
2006	1669	1115	200
2007	3037	1603	381
2008	1025	3951	176
2009	845	1980	653
2010	737	2677	126
2011	2306	2458	107
2012	11	1713	915
2013	1384	192	200
2014	20308	828	434
2015	60	111	45
Total	32290	18706	3253
Share %	59.5%	34.5%	6%

Source :- Central Bureau of Statistics(CBS)

      Ministry of Investment

Table 4: number of certified foreign agricultural projects, FDI U.S.$ (million) , growth rate of GDP(current price)exchange rate(%) ,transportation and communication / growth rate GDP(%) ,inflation rate(%) and electricity and water(%).

Year	(1) No.of foriegn certified agri. Invest. projects	(2) FDI (U.S..$ million)	(3) Growth rate of GDP% current price	(4) Exchange rate %	(5) Transport and commun./ Growth rate GDP constant price %	(6) Inflation rate%	(7) Electricity and Water %
2005	8	16	20.1	2.43	2	8.5	2.2
2006	18	200	20.9	2.17	2.1	7.2	2.2
2007	8	381	22.9	2.0107	2.3	8.2	2.2
2008	9	176	23.8	2.081	2.5	14.3	2.3
2009	14	653	24.9	2.2804	2.7	11.2	2.39
2010	15	126	27.1	2.3170	2.9	13	2.4
2011	6	107	27	2.6600	2.8	18.1	2.14
2012	10	915	27.3	3.5637	3	35.1	2.7
2013	21	200	28.1	4.7422	2.7	37.1	2.6
2014	14	434	37.5	5.7115	2.1	36.9	2.6
2015	18	45	23.7	6.0107	7	30.7	2.8

Source:-

1 – Columns 1and 2 :- Central Bureau of Statistics and Ministry of Investment

2 – Column 3 :- Central Bureau of Statistics and Bank of Sudan

3 – Columns 4,5 and6 :- Central Bank of Sudan

4- Column 7 :-Central Bureau of Statistics

Table 5:Value of foreign direct investment FDI (SDG) , growth rate of GDP, transport and communication percentage to GDP , exchange rate , inflation rate and electricity and water.

Year	(1) FDI mill. SDG	(2) GRGDP constant price	(3) TR%Transportation and Communication	(4) Exchange rate	(5) Inflation	(6) Electricity and Water
2005	38.9	8.7	10	2.43	8.5	44.22
2006	434	9.4	10.01	2.17	7.2	45.98
2007	766.01	10.2	10.4	2.0107	8.2	50.38
2008	366.1	7.8	10.5	2.081	14.3	54.74
2009	1489.1	5.9	10.8	2.2804	11.2	59.5
2010	291.9	5.2	10.7	2.3170	13	65.04
2011	284.6	1.9	10.4	2.6600	18.1	57.78
2012	3260.8	1.4	11	3.5637	35.1	73.71
2013	948.4	3.1	9.6	4.7422	37.1	73.06
2014	2478.8	2.7	5.6	5.7115	36.9	97.5
2015	270.5	4.9	29.5	6.0107	30.7	66.36

Source :-Column (1):- Own calculations based on columns 2 and 4 table (4)

      Column (2):-Central Bureau of Statistics

      Column (3):-Own calculations based on column 3 and 5 table (4)

      Column (4),(5):-Central Bank of Sudan .

      Column (6):-own calculations based on columns 3 and 7 table (4)

Table (5) above shows the data of the model's variables . The net value of foreign direct investment inflow in agricultural sector in Sudan during the period (2005-2015) has been taken from annual reports of the Central Bank of Sudan and federal Ministry of Investment .

The data on the domestic market size proxied by value of GDP and they were collected from annual statistical book of Central Bureau of Statistics (CBS).

The data of exchange rate and inflation rate were collected from annual reports of Central Bank of Sudan (CBOS).

The data of infrastructure (transport and communication)were calculated by multiplying the value of GDP and transport and communication from table (4)

The data of electricity and water were calculated by multiplying the values of GDP and electricity and water rate in table (4).

4-2 Econometric Analysis :-

The first part of the analysis is the descriptive statistics of the variables included in the model. Statistics of the following six variable Net inflow of FDI in agricultural sector, domestic market size (GDP), infrastructure (TR), exchange rate (EX), inflation rate (R)and electricity and water (EW) is reported in table 6 below.

Table 6 : Descriptive statistics of the variables (2005- 2015)

Item	FDI mill. SDG	GRGDP constant price	TR% Com. Transport	Exchange rate	Inflation	Electricity and Water
Mean	966.2827	5.5636364	11.68273	3.270655	20.02727	62.57
Standard Error	312.9546	0.9379157	1.837297	0.456277	3.715302	4.601318
Median	434	5.2	10.4	2.43	14.3	59.5
Standard Deviation	1037.953	3.1107146	6.093626	1.5133	12.32226	15.26085
Sample Variance	1077346	9.6765455	37.13228	2.290076	151.8382	232.8934
Minimum	38.9	1.4	5.6	2.0107	7.2	44.22
Maximum	3260.8	10.2	29.5	6.0107	37.1	97.5
Sum	10629.11	61.2	128.51	35.9772	220.3	688.27

Source:- Calculated from data of the variables in table 5

Table 6 above indicates that the average annual value of FDI inflow in agricultural sector was 966.3million SDG with standard deviation 1037.1 SDG . The maximum FDI in agricultural sector was in **2012** and it was about **3260.8** million SDG, but the minimum in FDI for agricultural sector was **38.9** million SDG in **2005**. In the year 2012 the number of certified agricultural investment projects were (10) that had the highest value of FDI (915) million U$ Dollars where 2005 had only (8) certified investment projects with the value of (16) million U$ Dollars .

With respect to market size which is represented by the real value of GDP, it was found that the average size was about 5.6 with standard deviation 3.1 . The maximum size of domestic market was in **2007** and it was **10.2** million SDG. Its minimum value was in **2010** and it was **1.4** million SDG.

Table 6 shows that the average size of infrastructure (transportation and communication) represented by government spending on roads and communication was 11.7 with standard deviation 6.09 . The maximum spending was in 2015 which was 29.5 million SDG and minimum spending was in 2014 which was 5.6 million SDG.

The exchange rate registered an average of 3.3 with standard deviation 1.51 . The maximum rate was 6.01 in 2015 and the minimum rate was 2.01 in 2007.

Economic stability represented by the inflation rate registered average value of about 20.03 with standard deviation 12.3 . The maximum rate of inflation was 37.1 in 2013 and the minimum was 7.2 in 2006.

Electricity and water registered an average of 62.6 with standard deviation 15.3 . The maximum rate of electricity and water was 97.5 in 2014 and minimum rate was 44.22 in 2005. This due to the moderately big expenditure by the government for the electricity and water and relatively big growth of GDP in 2014 compared with 2005.

4-3 The Model :-

The general relationship between the dependent variable (FDI) in agricultural sector and the explanatory variables GDP, transportation and communication, exchange rate, inflation rate and electricity and water is expressed in the following multiple regression equation :-

FDI = F(GDP, TR, EX, R, EW)…………………(1)

where:-

FDI : represents the annual net inflow of foreign direct investment in agricultural sector during (2005- 2015).

GDP : indicates the market size.

TR : represent the infrastructure of the country and approximated by the government investment expenditure on transport and telecommunication.

EX : indicates the exchange rate of domestic currency and is measured by the amount of pounds exchanged for one US\$.

R : denotes inflation rate and is used to represent overall stability in Sudan's economy.

EW :refers to electricity and water.

Equation 2 below specifies the general form of the function :-

FDI = a+b1,GDP +b2TR +b3EX +b4R +b5EW…………….(2)

Data on the variables were compiled from the sources of Central Bank of Sudan, Central Bureau of Statistics and Ministry of Investment on annual basis for the period (2005-2015). The results of the analysis is presented in table 7 below.

Table (7):- Regression results

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-2832.62	3102.39	-0.9130	0.40309	-10807	5142.33	-10807	5142.33
Electricity and water	58.89863	47.1481	1.24922	0.26687	-62.29	180.096	-62.29	180.096
Inflation	90.59039	72.8170	1.24408	0.26861	-96.59	277.772	-96.59	277.772
Exchange rate %	-761.179	594.402	-1.2805	0.25652	-2289.	766.78	-2289.1	766.78
TR% Com. Transport	15.254	74.1541	0.20570	0.8451	-175.36	205.8732	-175.36	205.8732
GRGDP%	109.7627	173.8427	0.631391	0.55552	-337.11	556.6395	-337.114	556.6395

Regression Statistics	
Multiple R	0.812847
R Square	0.660721
Adjusted R Square	0.321442
Standard Error	855.01
Observations	11

FDI = -2832.62 +59 EW +90 R -761EX +15.3 TR +110GDP

The adjusted R is 0.32 which means that the variables included in the model explained 32% of the variation inflow of FDI to the agricultural sector during the period of the study. The variables in the model are not significant but affect the inflow FDI to the agricultural sector as discussed below.

The signs of variables are consistent with the expectations of the economic theory and in the line with previous literature . The size of the domestic market (GDP) is positively related to FDI inflow to the agricultural sector. The Transportation and communication (infrastructure) is also positively related to FDI ; its insignificance may result from that fact the government expenditure on transportation and communication is very limited. The sign suggests positive effect of economic stability(R) on FDI to agricultural sector, as measured by inflation rate. Also, the results show that there is a positive effect of electricity on FDI inflow to agricultural sector .

Finally, the Exchange rate is negatively related to FDI in accordance with theoretical assumption.

The main reason of low adjusted (R) is the existence of multi co linearity problem between the explanatory variables as the table 8 indicates.

Table : 8 Correlation matrix

	FDI mill SDG	GRGDP constant price	TR% com. transport	Exchange rate	Inflation	Electricity and Water
Electricity and Water						1
Inflation					1	0.8557
Exchange rate				1	0.8693	0.7635
TR% com. Transport			1	0.4292	0.1620	-0.0908
GRGDP constant price		1	-0.0103	-0.5685	-0.7998	-0.7464
FDI mill SDG	1	-0.5476	-0.2946	0.3377	0.6031	0.6853

Source:- calculated from table (5)

The table 8 above indicates moderate multi co linearity between FDI and each of electricity (0.69), inflation rate (0.60) and exchange rate (0.34). It also shows a negative multi co linearity between each of growth rate GDP (-0.55), transportation and communication (-0.29) which reflex the government expenditure for infrastructure was small. However, the table shows high strong multi co linearity between exchange rate and each of inflation rate (0.87)and electricity and water.

CHAPTER FIVE

CONCLUSIONS AND RECOMINDATIONS

5-1 Conclusions :-

Foreign Direct Investment is the acquisition of a lasting interest in enterprise operating outside of the economy of the country of the investor where an effective voice is held in the management of the enterprise, that is, a single foreign investor either owns 10% or more of the ordinary shares or voting power of an enterprise. That only implies that direct investors are able to influence the management but they do not have absolute control over an enterprise.

The investment climate is the set of location-specific factors shaping the opportunity and incentives for the firms to invest, create jobs and to expand. It is a combination of surrounding circumstances under which investment process takes place such as political, economic, social, security legal and administrative situation. The study tries to verify economic determinants of inflow of foreign direct investment to agriculture sector in Sudan(2005-2015), for this purpose a secondary data was collected from the Central Bureau of Statistics, Central Bank of Sudan , Annual Reports and Federal Ministry of Investment then the Descriptive Statistics and Multiple Regression was used to answer the question that full fill the objectives of the study, which were describe the inflow of the foreign direct investment in Sudan (2005-2015), estimate the share of the agricultural sector from the foreign direct investment in Sudan, estimate the effect of some economic determinants in the inflow of the foreign direct investment in Sudan and determine the constrains facing the inflow of the foreign direct investment in Sudan.

 The analysis indicates that the average annual value of FDI inflow to agricultural sector to Sudan was 966.3million SDG with standard deviation **1037.1** . The maximum amount of FDI for agricultural sector invested in Sudan was in **2012** and it was about **3260.8** million SDG ,but the minimum size of FDI inflow for agricultural sector was **38.9** million SDG in **2005**

 FDI flow rate for agricultural sector to Sudan during (2005-2015) was not stable as its shown in table (5).

With respect to market size, represented by the real value of GDP, it was found that the average size was about 5.6 with standard deviation 3.1 . The maximum size of

domestic market was in **2007** and it was **10.2** million SDG. Its minimum value was in **2010** and it was **1.4** million SDG.

The average size of infrastructure (transportation and communication) represented by government spending on roads and communications was 11.7 with standard deviation 6.09 . The maximum spending was in 2015 which was 29.5 million SDG and the minimum spending was in 2014 which was 5.6 million SDG.

The exchange rate registered an average of 3.3 with standard deviation 1.51. The maximum rate was 6.01 in 2015 and the minimum rate was 2.01 in 2007.The result also shows that the exchange rate was negatively related to FDI in accordance with theoretical assumption and strongly significant. SDG devaluation will encourage foreign investors to invest in Sudan.

Economic stability, represented by the inflation rate registered an average value of about 20.03 with standard deviation 12.3. The maximum rate of inflation was 37.1 in 2013 and the minimum was 7.2 in 2006.

Electricity and water registered an average of 62.6 with standard deviation 15.3 . The maximum rate of electricity and water was 97.5 in 2014 and the minimum rate was 44.22 in 2005 .

The other variables that are not included in the model strongly affect inflow of FDI to agricultural sector as indicated by the results of the regression analysis. The variables although they are very important that there are difficulties in obtaining data on them. These variables include the ownership of agricultural lands, cost of production, security, political instability, legal and legislative laws and regulations.

5-2 Recommendations :-

1 – The government has to improve infrastructural problems specially transportation, communications, electricity and water supply .

2 – Budgets for agricultural sector should be increased to rehabilitate basic infrastructure and agricultural services .

3- Capacity building for employees through training is essential.

4 –Procedures for agricultural investment should be simplified.

5 – Major economical reforms are needed to reduce the inflation rate which represents the economical stability of the country.

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