

# Analysis of the recent Sudanese Industrial Policy in the New Structural Economics Framework: The Way towards Economic Transformation

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**Abstract** Economic growth and per capita income in Sudan have substantially declined in the past five years. Major reason for this is the failure of the economy to grow because of absence of proper economic policies to manage the structural endowments. In this study I would like to address the following research questions, why is structural change and industrial upgrading becoming increasingly important as a determinant of country's economic transformation, and how should these components be linked for a New Structural Economics framework. I have argued that the most of the recent developed economies have achieved the potential economic development lie in the politics of the different societies that adopted these policies. In contrast, the failure industry policies in the recent lower middle-income countries, in the case of Sudan that the economic policies were generally very bad, this can be devoted to the fact that the policies were driven by the desire to maintain political power and this will not support economic growth. Furthermore, I found evidence that a proper industrial policy and steadily economic growth in Sudan, the political equilibrium is necessary to change political institutions.

**Keywords:** *economic policy, structural change, comparative advantage, New Structural Economics*

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## 1. Introduction

If some or most developed countries have succeed in managing their endowment structures, and attaining high income growth, by adapting proper industrial policies, then least and lower middle-incomes have opportunity to advance their economies and thereby catch-up the developed world. Following [1] large theoretical and empirical literatures have developed during the past ten years, which have analyzed why the recent least and lower middle-incomes developing countries with natural resources are not developed, although are qualified to achieve the potential economic development. Up to this point, however, fewer has been achieved the economic prosperity through industrialization.

We contribute to the literature with this macroeconomic analysis of industrial policy in Sudan in the context of New Structural Economics framework. By comparing the industrial policies in Sudan with those in Korea and China during the first stage of development, we have created benchmark on how industrial policy should be designed. This allows me to test a variety of hypotheses derived from economic development theories.

Since Sudan gets its independence, most industrial policies fail to achieve the potential economic development due to the fact these policies are not related to Sudan's endowment structure and comparative

advantages. We consider the new structural economics framework to analyze the recent industrial policy towards economic transformation.

The facilitated and committed governments on achieving economic development have been attracting for economists. The field of economic development has been addressing issues such as these and much of technology and innovation for transfer poor countries has been working out to a considerable degree. Nevertheless there continues to be in developing countries failure, particularly on the least developing countries, to recognize the true importance of structural change for these countries. This can be achieved through the Growth Identification and Facilitation Framework (GIFF) and targeting latent comparative-advantage industries and support economic growth

Sudan's economy has been struggling to rrecover from its economic shock, which requires stabilization and structural policies that complement one another. As general known, stabilization policies lay the foundation for economic growth to achieve lower inflation and reduce government deficits. Then the structural policies attain its effect after resolving the macroeconomic imbalances. Likewise, the structural policies intensify the effectiveness of many stabilization measures: promoting competition, for instance, this may lead to lower prices and, consequently, lower inflation.

In this research, our main purpose is to add to existing empirical studies by examining impacts of stabilization policies on declining Sudan's economy.

The sustainability of growing economic growth can be achieved through combination of stabilization and structural policies. The main goal of stabilization policies is to achieve lower prices and lower inflation and thereby reduce budget deficits. However, over the past few years, Sudan has experienced external trade deficit, continued a depreciation of exchange rate and higher inflation and unemployment rates, which results higher inflation of 53%, unemployment of 43% and budget deficit [1].

The new conditions in Sudan, particularly with regard to economic stabilization and economic policies, are acknowledged to be necessary but not of themselves sufficient for sustaining economic development in the both long and short terms, which require growth and new forms of specialization.

Economic policy is based into two concepts, the first concept defines the economic policy as a generic name relating to industries, the second one is rather narrow and it includes policies that restrict or eliminate competition among firms to achieve particular goals, for instance, protecting and promoting industries.

There is generally broad agreement in economists thinking and practice that economic sector is an engine of economic growth, and offers an effective way to create employment, incomes, and prosperity. This study seeks to rethink the conceptual framework needed for formulating economic policy in the conditions currently facing the majority of the countries of the region. The problems we will be addressing are not exclusive to them, however, and the debate has very similar features both in the more highly industrialized countries and in those at an intermediate level of economic development.

In this study I would like to address the following research questions. Why is comparative advantage becoming increasingly important as a determinant of country's economic transformation, and how should be sustained for achieving a higher economic growth? Whether the government policies will be sufficiently strong to cause the growth of agricultural sector? And What is the main drivers' growth of the agricultural sector in Sudan?

The remained paper organizes as follows. In the next section I present related literature review and discusses the new structural economics approach to industrial policy. Section three answers the research questions why is structural change and Industrial upgrading becoming increasingly important as a determinant of country's economic transformation, and how should these components be linked for a New Structural Economics approach. Section four analyzes the recent development of sustainability of comparative advantages. Final section concludes.

## 2. Literature Review

In this section, I review related literature and try to shed some lights on how the new structural economics can be the best framework to transform the economy and thereby achieve a higher income growth. If we carefully examined the current developed countries and its experiences and how they advanced their economy we will have a good lesson to transfer Sudan economy to upper-middle income,

the best way to achieve this is to rethink again on our development policies as proposed by [1].

New Structural Economics (NSE), which proposed by [1] argues that the development path of lagging economies should start with identification of their endowment structure and search for growing tradable industries in fast growing countries with similar endowment structure but several times higher per capita income. Further step in this direction is identification of existing private domestic firms in those industries and the removal of constraints to quality upgrading or further firm entry. Moreover, in industries without domestic firms FDI or firm incubation programs should be employed together with measures to scale up successful private innovation. In this context, [1] identifies special economic zones and industrial parks as important measures. Finally, the role of government is needed to compensate pioneer firms through temporary tax incentives, direct credits for investments and access to foreign exchange.

The NSE framework suggests following industrial policy in order the countries achieve higher economic growth and thereby transfer the economy into high development income. By another words, if a particular country manages its endowment structure and its industrial policy based on its comparative advantage, in one generation the economy will catch-up the developed world.

The international trade theories illustrate that the comparative advantage is an important concept for explaining trade patterns. Which was first developed by the classical economist [2] building on [3] principle of absolute advantages.

Smith and Ricardo has explained the occurrence of absolute and comparative advantages as the result of differences in labor productivity. [4] and [5] developed the idea of comparative advantages in a model based on differences in factors endowments. However, it is well known that measuring comparative advantage and testing the Hecksher-Ohlin theory have some difficulties [6] since relative prices under autarky are not observable. Given this fact, [7] proposes that it may not be necessary to include all constituents effecting country's comparative advantage. Instead, he suggests that comparative advantage is "revealed" by observed trade patterns, and in line with the theory, one needs pre-trade relative prices which are not observable.

Most recent literature has recognized the importance of developing comparative advantages to transform a country to higher income growth [8]. However, the vital role of the sustainability of comparative advantages in Sudan has not been empirically investigated thereby creating a research gap in this area. This study is undertaken to develop a practical framework for sustainability and priorities of comparative advantages of agro-industry commodities in Sudan.

The absence of proper strategies, economic reform and lack of economic policies have now resulted in low levels of per capita income, where a majority of labor force either to immigrate abroad and working in temporary and non-productive activities [1]. Addressing these require structural transformation to high productivity levels and focusing on long-term sustainable sources for economic growth and inclusive development, and move towards agro-processing industries.

As [9] argue “if we can learn about government policy options that have even small effects on long-term growth rates, we can contribute much more to improvements in standards of living than has been provided by the entire history of macroeconomic analysis of countercyclical policy and fine tuning”. To promote this transformation, the fundamental question arises from how policy makers in Sudan design effective development policies.

Further studies related to agricultural trade have found that Sudan has lost its market shares of most of agricultural products, for instance, the production cotton and Gum Arabic has decreased by 30% and 60% in 1999 and 2007 respectively.

[10] studied the performance of Sudan exports over the period from 1970-93, the author found that the impact of price incentives on export earning was a minimal and the programs adopted by the policy makers have not created improvement in the price incentives.

In their research, [11] measured the competitiveness of Gum Arabic at Sudan crops market; they employed participatory learning and action (PLA). The authors conclude that the Gum Arabic showed varying comparative advantages and despite adopting the liberalization measures the market is predominating.

Using the Policy Analysis Matrix (PAM), [12] evaluated the Sheep production market in Sudan. The study found that the high taxes on sheep’s production have affected negatively on the export and the value added has a positive relation with foreign exchange.

The theoretical implications of this study may fill the above mentioned gap related literature by analyzing the priorities of comparative advantages of agro-industrial products. However, in Sudan attempts have not been made to link the comparative advantages to agro-industrial products.

Sudan is considered have abundance in resources, usually most of economic activities are based on labor-intensive (agriculture, animal husbandry and fishery). However, without exploit all the economic endowments, especially the human capital, which witnessed improvement in human capital index, the availability of land and natural resources, electricity grids, perfect regulations, port facilities, airports, telecommunication systems, attractive investment environment, basic facilities such as ports in most of Sudanese provinces, trains, roads. Besides that, Sudan locates in the central of the world with costal for connecting with other world.

### **3. New Structural Economics Framework to Sudan’s Industrial Policy**

This section also devoted to address the following research question. Why is structural change and industrial upgrading becoming increasingly important as a determinant of country’s economic transformation, and how should these components be linked for a New Structural Economics approach.

In this context, Sudan has many opportunities to catch-up the upper-middle income or even higher-income economies. Starting from its economic endowments or factor of production, such as natural resources, labor, and capital, this can be used in production process. We can also ad infrastructure as one of endowment components,

which includes soft infrastructure and hard infrastructure as cited in [8].

#### **3.1. Why is Structural Change and Industrial Upgrading Increasingly Important?**

The first answer to the question is simple, through manufacturing. Advanced and emerging economies are becoming more dependent upon industry because they are increasingly involved in advanced technology, innovation, economic parks and free trade areas.

What all these means for Sudan is that these countries cannot achieve economic development, cannot sustain its economic growth. Instead, they find itself increasingly have to adapt and initiate stabilization policies and struggling to recover from it economic shocks.

The second reason why structural change and industrial upgrading will become more central and increasingly is that adapting economic products that Sudan has comparative advantages in will transfer it to higher economic growth. There are several kinds of research findings and observations which illustrates this point.

First, research shows that the East Asian newly economicized economies have steadily sustained its annual GDP growth between 8% and 10% for more than a decade. In 2012 the year followed the secession of South Sudan; Sudan adapted stabilization policies, with the aim of recovering from the economic shock by the year 2019 with an average growth rate of at least 7.1% per annum [13].

Second, research evidence is beginning to accumulate that economic transformation and achieved economic diversification is not a life-long process and the economic development could be happen if the country builds a proper model to transfer it to high income growth. Sudan will have to be much more of what these issues are how to initiate policies to transfer the labor from traditional sector into the economic one?

#### **3.2. What are the Major Components of Stabilization Policies and Economic Recovery?**

The field of economic development has been addressing issues such as these and much of technology and innovation for transfer poor countries has been working out to a considerable degree. Nevertheless there continues to be in developing countries failure, particularly on the least developing countries, to recognize the true importance of structural change for these countries. In this research, our main purpose is to add to existing empirical studies by examining impacts of stabilization policies on declining Sudan’s economy.

Since late 2011, Sudan has observed remarkable decrease in economic growth, which increased inflation and unemployment rates. Since then, Sudan underwent economic reforms that favored adopt stabilization policies. Considering that the ongoing five-year economic reform plan (2015-2019) for growth and poverty reduction cannot be achieved unless stabilized the macroeconomic indicators.

The absence of proper strategies, economic reform and lack of fiscal and monetary policies have now resulted in low levels of per capita income, where a majority of labor force involved in agricultural activities [14]. Addressing

these require structural transformation to high productivity levels and focusing on long-term sustainable sources for economic growth and inclusive development, and move towards agro-processing industries.

As [15] argue “if we can learn about government policy options that have even small effects on long-term growth rates, we can contribute much more to improvements in standards of living than has been provided by the entire history of macroeconomic analysis of countercyclical policy and fine tuning”. To promote this transformation, the fundamental question arises from how policy makers in Sudan design effective development policies.

Economic policy becomes one of the major issues in developing countries. The sustainability of Sudan's economic growth is extremely difficult without transformation from agriculture to industrialization process. A well planned economic policy gives the country to set up many industries and convert it into modern areas and transfer the economy into developed economies. There is a need a country to involve in a number of structural changes, for instance production techniques and economic output. In this section we will give a historical review as related to economic development in Sudan.

This study is expected to add several primary contributions to the existing literature. First, it extends the theoretical and empirical literature by analyzing the priorities of comparative advantages of Sudan's commodities under the context of new structural economics. Starting from 2000, Sudanese economy entered a novel era with the rapid economic growth and, it has undergone significant regulatory and structural changes in the aftermath of the 2011 South Sudan secession. Second, this study will apply three different methods, which may provide insight for the existing literature if the analysis is sensitive to the methods employed.

I believe this study is an important contribution to economic transformation and development in Sudan. There is clearly stated for academic and practitioners to pay attention to the impacts on Sudan's economic growth, as it has received little or no academic attention. However, the main aim of this study is to make an empirical contribution to the ongoing debate on economic policy.

We tend to analyze the priorities of comparative advantage of Sudan's commodities. To this end, the research applies a variety of econometric models to identify the relationship between the endogenous and exogenous variables for the recent period from 2005 to 2015.

#### 4. Qualitative Evidence from Surveys and Interviews

[1] has examined why some Asian countries, such as four tigers and new industrialized economies of South east Asia were successfully achieved higher economic growth by adapting industrial policies and attracted FDI to finance the economic development. While Sub-Saharan African countries still struggling in least developing countries and failed to achieve economic progress.

The first key result is evidence on despite the huge natural resources, location and higher skilled labor, Sudan

has not benefited from these resources. The country is dominant by agriculture where it contributes around 34% to the GDP, while industry contributes 35% of the GDP. Sudan has opportunity to adapt industrial policies related to its comparative and competitive advantages in agricultural commodities.

The second is the existing industrial policies is that the Sudan's economy is fragile and relies on agricultural products that do not have comparative advantage in. The implication is that for sustained economic growth to occur, Sudan basically needs two things: concentrating on the extractive industries and develop particular products that Sudan may have comparative advantage in.

Finally, in order for Sudan to have the capacity to perform effectively over a period of time it must be plan for transferring the economy into higher growth. But economic and economic development are difficult undertakings that pose complex problems and for the firms that operate in Sudan. One of the requirements for success in such endeavor is ability to adapt structural reforms and identify the products that have comparative advantage in.

#### 5. The Industrialization Process in Sudan

The industrialization process and strategic plan of industrial sector can be distinguished to eight distinct periods are as follows.

The first attempt design industrial policy goes back to the pre-independence period until the 1956. During this period, Sudan has exported raw and primary products and public sector was responsible indirect from production and distribution.

The second period started from 1960-1969, the private sector has invested and entered the market and started to play its role.

The third period was from 1956-1960, the modern manufacturing was started.

The fourth period from 1969-1973, the socialist orientation shapes the business environment, where many firms were become a public sector.

The fifth period, from 1973-1978, the public sector was controlled the agro-industrial investments.

The sixth period from 1978-1989, the industrial sector has suffered from the lack policies.

The seventh period started from 1990-2000, which witnessed the entering of new technology to the existent industries. Many industrial firms were established and started to contribute to the economic growth. It's the years witnessed the economic reform and privatization, where may public firms were converted to private firms, due to the fact that the productivity in the public sector are less and non-profitable compared to the private sector.

The eighth period started from 2000-2010, which witnessed the oil production, where many private firms were successfully established.

The ongoing industrial policy started from 2015 to 2019, with aims is to promote industrialization and allows the industry to lead the economic growth.

In this context, I concentrate on the recent industrial policy as related to the New Structural Economics as it taken into account the specific industries to achieve economic development in Sudan.

## 6. Conclusion

In this paper I have tried to shed light on the role of comparative advantages of agro-industry in transforming the economic development in Sudan. The economic theory pointed that a well planned industrial policy, committed and facilitated government and concentrated on the industries that country's has comparative advantages in, no matter how country in any development stage will transformed stimulate economic growth and development to higher income growth.

There are many countries successfully transformed its economies into advanced economies and others were not. I have argued that the most of the recent developed economies have achieved the potential economic development lie in the politics of the different societies that adopted the policies. In contrast, the failure industry policies in the recent lower middle-income countries, in the case of Sudan that the economic policies were generally very bad, this can be devoted to the fact that the policies were driven by the desire to maintain political power and this will not support economic growth.

The author suggests for having a proper industrial and trade polices based on Sudan endowment structure will enhance economic growth, the political equilibrium is necessary to change political institutions. We may have much to learn from the successes and failures of development attempts.

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