ALL ROADS LEAD TO JUBA: AN INQUIRY INTO THE ECONOMIC VIABILITY OF SOUTH SUDAN

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Abstract
When South Sudan proclaimed independence from Sudan in 2011, projections were optimistic in that the country's considerable oil resources would secure its viability as the world's newest state. Fast forward five years and South Sudan is grappling with a crippling civil war and facing a dire humanitarian crisis, situation which begs the question: from an economic perspective, is South Sudan a failed experiment in statehood? This paper attempts to tackle the question by analysing South Sudan's main sources of revenue, its current structural deficiencies and the cost of war on its economic development.

Key words: economic viability, oil, Sudan, South Sudan

JEL classification: F51 International Conflicts • Negotiations • Sanctions

1. Introduction

In January 2011, the southern region of Sudan voted to secede from the motherland in overwhelming numbers and declared its independence in July the same year. The world's newest country is landlocked, borders Sudan to the north, Ethiopia to the east, Kenya to the south-east, Uganda to the south, the Democratic Republic of the Congo to the south-west and the Central African Republic to the west (BBC News, 2011). It has an area of 644,329

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km² and a population of 12 million, of which the ethnic group Dinka is the largest (35%), followed by the Nuer (15.6%), Shilluk, Azande, Bari, Kakwa etc (CIA, 2016).

The geography of South Sudan is dominated by the White Nile River, the main natural feature influencing flora and fauna. The centre of the country, traversed by the White Nile, is host to the Sudd, a large swamp covering 100,000 km². South Sudan's climate is generally hot, with seasonal rainfall, heavier in the elevated areas of the south and lesser in plains of the north. The primary issues affecting the biotope of South Sudan are the lack of drinkable water, the excessive hunting of wildlife, soil erosion and desertification (The Encyclopedia of Earth, 2012).

The proclamation of independence was prompted by more than 20 years of fighting in the Second Sudanese Civil War (1983 – 2005) and garnered support from the international community. Nevertheless, independence has not saved South Sudan from itself. Since December 2013, the country has been in the midst of a harrowing civil war between the forces of President Salva Kiir (from the Dinka ethnic group) and his former vice-president Riek Machar (a Nuer), that has destabilized the region, wrecked its fledging economy, displaced nearly 2.2 million people and claimed countless lives. The conflict has been characterized by senseless atrocity crimes such as mass killings, sexual violence against women and girls, the destruction of civilian property, the use of child soldiers, torture and other inhumane practices committed by both sides (Human Rights Watch, 2015).

For the purpose of this article, 'South Sudan' shall refer to the 28 states created in October 2015 (Aweil East, Aweil, Lol, Wau, Gbudwe, Maridi, Twic, Gogrial, Tonj, Gok, Western Lakes, Amadi, Yei River, Ruweng, Northern Liech, Southern Liech, Eastern Lakes, Terekeka, Jubek, Western Nile, Western Bieh, Jonglei, Imatong, Eastern Nile, Latjoor, Eastern Bieh, Boma, Namorunyang) (Radio Tamazuj, 2015) and shall not include the disputed territories of Abyei, South Kordofan and Blue Nile (Insight on Conflict, 2015).

2. Oil

Unsurprisingly, oil is South Sudan's main resource. However, the World Bank estimates that by 2035, even this source of income will gradually

dwindle away to nothing (The World Bank, 2015). The most productive territories are the Muglad and Melut basins, which are not limited to South Sudan, but go beyond its borders into Sudan. As Figure 1 below suggests, oil from Blocks 2, 4, 6 and 17 belongs to Sudan; oil from Blocks 1, 5A, 3 and 7 is counted as South Sudan's.

Figure 1: Key oil infrastructure in Sudan and South Sudan

Source: U.S. Energy Information Administration

By declaring independence, South Sudan removed most (¾) of the oil production capacity from Sudan but, so far, it has not been able to profit from it in any appreciable way. The fact that, in 2011, oil amounted to 98% of total government revenue speaks volumes to its importance in South Sudan's economy. However, it was plagued with structural issues from the beginning: as a landlocked country, it could only transport its oil through pipelines operating in Sudanese territory to reach the Bashayer port along the Red Sea, which required paying fees to compensate for using Sudan's facilities. This situation proved to be extremely volatile, as a series of disputes arose between the two countries on the subject of oil transportation.

Institutionally speaking, the National Petroleum and Gas Corporation (NPGC) is the main organization that governs policymaking in the hydrocarbon sector and acts on the government's behalf to close petroleum agreements. Nilepet (Nile Petroleum Corporation) is the national oil company in South Sudan; all of Sudan's assets in South Sudan were nationalized in 2011 and transferred under Nilepet's management. Its efficiency is debateable, since it is reduced by its lack of financial resources and poor technical expertise to a minority shareholder when it comes to production contracts with foreign oil companies. These oil companies, the Greater Nile Petroleum Operating Company, the PetroDar Operating Company and the Sudd Petroleum Company are mostly owned by other foreign companies such as CNPC (China), Oil and Natural Gas Corporation (India) and Petronas (Malaysia).

Infrastructure-wise, the two pipelines that South Sudan uses in order to transport its oil through Sudanese territory to the Bashayer Marine Terminal (near Port Sudan) are the GNPOC pipeline and the Petrodar pipeline. The GNPOC pipeline transports oil (the Nile Blend, a medium low-sulphur waxy crude oil) from the Unity (Block 1), Mala and Thar Jath fields (Block 5A) in South Sudan and has a capacity of 450,000 barrels / day, while the Petrodar pipeline carries the Dar Blend (a heavy sour crude oil) from Blocks 3 and 7 and has a design capacity of 500,000 barrels / day. Relying so heavily on Sudan for its oil transportation is evidently not an ideal situation for South Sudan, considering their tumultuous history, which is why South Sudan has been trying to make other infrastructural arrangements with Kenya, Ethiopia or Djibouti. Nonetheless, these plans cannot be set into motion as long as the civil conflict rages on.

Furthermore, South Sudan has no oil refineries. The construction of two refineries has been put at risk by internal political clashes. The first, at Bentiu, would have had a capacity of 3,000 barrels / day, to be expanded to 5,000 barrels / day in the future; the second, located in the Upper Nile, near Blocks 3 and 7, would have maxed out at 10,000 barrels / day.

Before 2011, Sudan was second only to OPEC when it came to oil production; after the split, the oil production of Sudan and South Sudan together deteriorated gradually, marked by internal strife and disagreements between the two. Coupled with the rapidly declining price of oil at international level, the numbers do not present a positive outlook for either country (U.S. Energy Information Administration, 2014).

Table 1: Oil production in Sudan and South Sudan during 2010 – 2014

Year	**2010**	**2011**	**2012**	**2013**	**2014**
Production (barrels / day)	489,000	455,000	115,000	250,000	261,000

Source: U.S. Energy Information Administration

In addition to the maturity of oil fields in both countries, which can explain some of the decline, oil production was greatly affected by disputes between Sudan and South Sudan over transport fees. For instance, all production in South Sudan was terminated in January 2012 by governmental order (which explains that year's low output), only to be restarted in April 2013 after a series of negotiations (Yager, 2015). However, conflicts between the two continued, with Sudan threatening to cut off access to its pipelines over the course of 2013. Moreover, production was shut down again at the end of 2013, as a result of the civil war between the forces of current President Salva Kiir and his former vice-president Riek Machar; satellite images indicate significant damages to key infrastructure (U.S. Energy Information Administration, 2014).

It is worth noting that since October 2006 (when South Sudan was still part of Sudan), U.S. organizations and individuals have been banned from investing in Sudan's petroleum and petrochemical industries because of the suspected financing of military operations in Darfur (Yager, 2015). However, after becoming an independent state, South Sudan has no longer been subject to the Sudanese Sanctions Regulations set by Office of Foreign Assets Control

(U.S. Department of Treasury); moreover, OFAC has issued general licences that authorize "(1) activities and transactions relating to the petroleum and petrochemical industries in the Republic of South Sudan and related financial transactions and (2) the trans-shipment of goods, technology and services through Sudan to and from the Republic of South Sudan and related financial transactions". That being said, participating in the refining process of South Sudan crude oil in refineries located in Sudan is still strictly prohibited, a major impediment, given the fact that South Sudan has no refineries of its own (Office of Foreign Assets Control, 2011).

All in all, South Sudan's future in the oil sector seems to have been jeopardised from the beginning.

3. Other sources of revenue

As far as other minerals are concerned, in 2012 the parliament of South Sudan passed The Mining Act, which became effective in March 2013, establishing 5-year exploration licenses (renewable) and 2-year reconnaissance licenses (non-renewable) for mineral resources. The corporate tax was set at 20% and the government allotted a 15% share in large-scale mining operations for itself (Yager, 2015).

Gold is mined in the formerly-named Eastern Equatoria state at Nanakanak. In January 2013, the British company Equator Gold Ltd. renewed its exploration license at the river Luri and the New Kush Exploration & Mining Ltd renewed its exploration license in Kapoeta, Eastern Equatoria. There were plans that, by the end of 2015, NKEM invest somewhere between $10 million and $20 million in exploration (Yager, 2015). Needless to say, those plans were hindered by on-going in-fighting.

Some of Sudan's gold trade, especially from South Kordofan, is even diverted into South Sudan by SPLM-N (Sudan People's Liberation Movement – North), a rebel faction outlawed by the Sudanese government, but there are no currently available estimates in order to assess the impact on the economy of South Sudan; most likely, the numbers are not significant. Nevertheless, gold miners in SPLM-N-occupied areas are persuaded to trade with the Mountains Trade and Development Bank, with headquarters in Juba (Spittaels & Weyns, 2014).

Though it appears that geologists and mining experts are optimistic in regards to South Sudan's potential gold reserves, exploration has been stagnant because of the climate of insecurity that plagues the region, so that

the majority of gold production is artisanal, concentrated in places such as Kapoeta.

The same goes for the mining of diamonds and other minerals such as uranium, bauxite, limestone, iron ore, marble, lead, nickel, copper, chromium, zinc, tungsten, mica and silver. Initial studies carried out in the 1970s and early 1980s were optimistic, but not in the least felicitous as to determine their commercial viability and, unfortunately, knowledge on mineral ores in South Sudan has not much improved; any possible exploration mission is now hindered by a high-risk environment. However, it bears mentioning that, since South Sudan borders mineral-rich territories such as northern Uganda and northern Democratic Republic of the Congo, encouraging prospects may not be entirely unfounded. Even if large quantities of ore are to be discovered in the future, though, the mining industry of South Sudan will require many years before becoming profitable, because of the galling absence of adequate roads and power generators (United States Institute of Peace, 2013).

South Sudan is also rich in forests; it even boasts the world's largest and Africa's oldest teak plantations, which could conceivably bring in US $50 million in export revenue every year. However, illegal logging and the absence of the rule of law has led to deforestation and economic losses. Similarly, another problem is the poaching of wildlife by civilians, members of the armed forces and the police, either for profit or for subsistence purposes; animals are targeted for game meat and for ivory (Fleischner, December 2015).

As for agriculture, most South Sudanese farmers practice subsistence agriculture on small plots of land (0.4 – 1.7 hectares) using rudimentary tools and low-yielding seeds with little to no fertilization, as commercial farming is severely lacking. Since there are nearly no irrigation systems in place, crop cultivation depends heavily on rainfall, which leads to irregular outputs in production. In 2013, before the country was beset by civil war, South Sudan had become a net importer of food (approximately 50% of its needs), despite its rich natural resources and the fact that, in 2010, it had actually exported food to neighbouring countries. In fact, almost half of its land area (300,000 km^2) is deemed suitable for cultivation; however, it is estimated that only 4% is cultivated on a regular basis and most of the work is done manually by women in small units of land (as much as 80% of agricultural activities are delegated to women), since farming is not looked upon very favourably as a profession, even though 90% of South Sudanese are rural-bound and it

represents the main source of income. The most popular crops are cereals (sorghum, maize, millet, rice), alongside a minor production of groundnut, sweet potato, yam, coffee, mango, papaya, okra, cowpea, green gram, pumpkin and tobacco. Production is low, only 0.97 tonnes / hectare during 2005 – 2009, and is not bound to improve in a climate of insecurity. The South Sudanese lack an entrepreneurial approach when dealing with cattle, raising them for prestige and dowry payments instead of focusing on them as a source of active revenue. Livestock farming is practiced by the nomad and semi-nomad population, who depend on the availability of grazing land and watering points.

The lack of proper infrastructure such as roads, railways or electricity would make it difficult to transport agricultural produce even if production were sufficiently high. All things considered, it's fair to say that South Sudan's agriculture is defined by paucity (African Development Bank Group).

4. The cost of war

The civil war that began in South Sudan in December 2013 has already incurred a devastating effect on its economy. The cost of war can not only be judged in terms of measurable economic data, but also with respect to social and cultural consequences.

The means that the belligerent parties are using to fund their war effort have hijacked South Sudan's economy and ensured the rule of a vicious kleptocracy. The fringe rebel group and militia SPLM-IO (Sudan People's Liberation Movement-in-Opposition), led by Riek Machar, are funding themselves via questionably-acquired money hidden in foreign accounts, diaspora remittances and business deals with individuals of disreputable nature hoping to profit once victory is achieved ('war profiteers'). Meanwhile, the government has been using oil revenue (which they control completely) and gimmicks like currency speculation, benefitting from the official and parallel black market exchange rates: on the official market, one US dollar was worth around 2.9 South Sudanese Pounds (SSP); according to the parallel exchange rate, one dollar was equivalent to 17 – 18 SSP. Officials acquired hard currency as oil revenue and thrived on account of this difference, making a pretty penny out of financial schemes. The Bank of Sudan has also resorted to inflationary practices by printing more money in order to keep cash flowing.

While this brutal enterprise has proved profitable for the elites, people in general have been left to fend for themselves, relying on the same tactics employed during the protracted conflict with the Sudan, such as looting, destruction of settlements and generally violent and predatory behaviour (Fleischner, December 2015).

South Sudan is overcome with an extreme malnutrition crisis. The Integrated Food Security Phase Classification (IFC) report from November 2015 describes how 3.9 million of South Sudan's population are "severely food and nutrition insecure", an 80% increase in comparison to 2014. According to the IPC scale, this figure is further classified into 3.1 million in 'acute food and livelihood crisis', 800.000 in 'humanitarian emergency' and 40.000 from the Unity State experiencing 'catastrophe'. In the Unity state, IPC observers gathered that the main sources of food were water lilies and fish, along with other seasonal foodstuffs such as *Thow*, *Lalop*, *Thok* or wild palm fruit, compared to the pre-conflict diet of milk, meat, sorghum, maize, sesame and groundnuts. However, even this food ceases to be available in the dry season, starting January and ending in June. Trade is essentially impossible, given the absence of markets (destroyed during the fighting in May 2015), the lack of income sources and travel insecurity, rendering the population incapable of purchasing food. Moreover, crop cultivation is disrupted by the fighting and numerous crops have been either destroyed or looted; livestock is also a rare sight since nearly all the cattle was looted. Food distribution by humanitarian organizations is scarce and inefficient, given (again) the reported looting. The IPC holds that, in the absence of humanitarian support, the designation placed on a large number of the population is likely to degenerate into 'famine' (Integrated Food Security Phase Classification, 2015).

Hunger can have long-lasting consequences on economic development: it cripples productivity and the development of children, who would have eventually become part of the workforce, and it is usually associated with high mortality rates. It later presupposes higher spending in the health and education sector to recuperate from the incurred damages and it is conducive to conflict, as people fight over scarcer and scarcer food sources. It is estimated that these effects will accrue somewhere between US$ 1.2 billion to US$ 6 billion in terms of losses if the conflict remains unsolved for the next five years (Further Economics, 2015).

Figures indicate that in 2014 the on-going conflicts have racked up a bill amounting to 15% of GDP. Infrastructure development and the delivery of

resources have been sacrificed in favour of military expenditure. A prominent victim is the oil sector, the country's main source of revenue, with production falling by 20% and expected to stall at 165,000 barrels / day up to the end of the 2015 / 2016 financial year, as well as prices declining from $110 / barrel to well under $50 / barrel (The World Bank, 2015). Such a drastic fall in oil production, especially when it makes up so much of the total revenue, is usually associated with expense cuts and the accumulation of debt (internal and external). Internally, debt can discourage borrowing and private investment, while, externally, it can reduce growth. Currently, South Sudan's debt to GDP ratio is around 6.5%. Similarly, education spending has fallen between 4-7% of total expenditure.

Another cause for concern is the critical social fragmentation that will continue to plague even a peacefully-settled South Sudan. The inflation of wealth disparities and the social and psychological consequences of the brutality experienced during the civil war (sexual violence against women and girls, the use of child soldiers) will, no doubt, constitute colossal barriers in the post-conflict reconstruction and the economic recovery process (Frontier Economics, 2015).

Continued conflict has not only affected South Sudan, but other countries in the region as well, such as Uganda, Kenya and Ethiopia, not to mention Sudan itself. Economic opportunities and investment in South Sudan have been threatened by the tug-of-war: a relevant example is the LAPSSET project, including a highway, railway, oil pipeline, refinery and expansion of the Lamu port, which could constitute an alternate route for transporting South Sudan's oil, other than through Sudan. Refugee flows from South Sudan into Kenya and Ethiopia constitute a major problem for these countries, which are finding it increasingly hard to cope: Kenya is host to some 45,200 refugees from South Sudan, while there are roughly 270,000 in Ethiopia's poverty-stricken Gambella region (the highest number of refugees in any African country, as a direct result of the South Sudan conflict). Kenya's finance sector is substantially linked to South Sudan, as many Kenyan banks operate branches inside South Sudan and provide the main financial services and market liquidities. Furthermore, Uganda is heavily invested in the outcome of South Sudan's civil war, given its military involvement in support of the government of South Sudan; there are various allegations of the government paying Ugandan forces in exchange for their military services, however, they have been denied. Many Kenyans and Ugandans work in South Sudan as taxi

drivers, shop owners or traders, and send remittances to their home countries, boosting the economy (Fleischner, June 2015). Its spillover effects in Sudan are not restricted to the influx of refugees, but also relate to South Sudan's impossibility to acquit itself of its payments in regards to oil transportation and processing (Further Economics, 2015).

5. Conclusions

South Sudan reveals some worrying statistics. In 2014, its GDP per capita was calculated at $1,111. Illiteracy and gender inequality are rife, as only 27% of the population over 15 is literate, of which 40% are males and only 16% females. Only 55% of South Sudanese have access to drinking water and 80% do not have appropriate sanitation facilities. At the same time, poverty is on the rise: if 44.7% of the population experienced poverty in 2011, the numbers have grown to 57.2% in 2015. However, South Sudan's population is young, with 2/3 under the age of 30 – an untapped well of potential, the human resources required to revitalise the economy with the proper education and infrastructure development, a very big "if", judging by the troublesome statistical information (The World Bank, 2015).

Moreover, South Sudan suffers from major structural deficiencies. Although rich in natural resources, South Sudan is struggling with an underdeveloped economy that mainly focuses on the oil sector. The vast majority of the working population are mostly employed in agricultural or pastoral jobs, for which they do not receive a wage, producing approximately 15% of GDP (The World Bank, 2015). Unsurprisingly, poor infrastructure is proving to be a significant issue preventing economic development. The lack of roads and power hinders the mining industry. At the end of 2012, it was estimated that there were only 300 km of paved roads in the whole of South Sudan (Yager, 2015).

The list of complications continues with the fact that nearly all of the country's revenue is controlled by a powerful elite who use it either to support their comfortable lifestyle or to finance war, plunging the country deeper into debt and the population further into poverty and wrecking any semblance of a functioning economy or state structure. Based on 12 main indicators (demographic pressures, refugees and IDPs, uneven economic development, group grievance, human flight & brain drain, poverty & economic decline, state legitimacy, public services, human rights & rule of law, security

apparatus, factionalized elites, external intervention), South Sudan occupies the first position in the Fragile States Index for 2015 (The Fund for Peace, 2015). At this moment in time, South Sudan has no working economic sector in order to claim to be a political entity capable of self-sufficiency.

In an attempt to mitigate currency speculation, in December 2015, the government introduced a floating exchange rate, in order to unify the official and black market exchange rates; however, this policy has been only partially successful and, though the official exchange rate has now been set to US $1= 20 SSP, the black market rate has already sprung up to 29 SSP for a dollar, and continues to rise. The consequences for the economy have been overwhelmingly negative: the inflation rate has reached 110%, the price of food, fuel and other commodities has skyrocketed, preventing exchanges between economic agents, since buyers do not have enough money to acquire goods and sellers do not have enough customers to sell their goods to; perishable materials such as food cannot be stored and are, therefore, wasted. South Sudan's unemployed population cannot afford paying high prices for basic goods such as food and medicine and the situation is bound to get even worse, considering the high number of people in danger of experiencing famine.

To alleviate some of these issues, the government could attempt to infuse capital into the economy by printing more money, and increasing inflation, or by borrowing more money (Enough Project, 2016). Because of the current security situation, obtaining money from external sources is unlikely and, even if it did manage to secure more loans, South Sudan can't afford going much further into debt. Neither option is particularly attractive and these circumstances have provided a perfect environment for criminality and social tensions to increase, alongside internal military hostilities and serious structural deficiencies. As it stands, nothing about South Sudan's situation suggests it might become economically-viable as a state at any point in the near future.

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