South Sudan: The Birth of an Economy

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The research was conducted with the support of the Ewing Marion Kauffman Foundation. It is part of a longer report to be released later in the year.

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A DRIVE AROUND SOUTH SUDAN

The first thing one notices on the streets of Juba, the capital of South Sudan, is the abundance of white Toyota Land Cruisers. There are less than 100 km of tarmac roads in the entire country of 240,000 square miles; without a 4-wheel-drive vehicle, one cannot move around. A closer look at the Land Cruisers reveals that most have special number plates: UN, for United Nations vehicles, and GOSS for Government of South Sudan vehicles. One can learn a lot about the economy of South Sudan just by watching the roads.

Apart from the Land Cruisers, one notices a large number of water and fuel tankers on the road. Public electricity in Juba, a city of 1 million, is in very limited supply, and public water nonexistent. As a result, almost all workplaces and wealthier private residences rely on generator power and water delivered by truck. The roads also tell us how waste is managed in Juba. While some aid agencies and hotels do contract out to garbage collectors, the majority of waste is piled in the streets and then burned.

As in many developing countries, driving in Juba is a daunting experience. There is a complete absence of road signs and traffic lights, and only one road has streetlights. What's more, while traffic moves on the right-hand side of the road, most drivers also sit on the right-hand side of the car, as most vehicles are imported from Kenya.

When we turn our attention to the actual people on these highly informative roads, other issues become apparent. There is no formal taxi network in Juba. Instead, a few enterprising Kenyans and Ugandans have established themselves as private taxi drivers. Nor do foreigners dominate only in low-skilled service jobs. Most of the heavy machinery on the roads is also operated by foreigners, particularly Asians. Indeed, across most of the booming sectors of the economy, the largest firms are foreign-owned and foreign-operated.

Venturing outside Juba, one also gains insight into what the roads were like before the recent bout of post-war reconstruction. First of all, it can be a struggle to reach certain places. South Sudan lacks interior roads that link smaller villages with larger towns. As a result, a large percentage of the population is completely isolated from the modern economy. Even where roads do exist they are unpaved, unevenly surfaced, and poorly marked. Moving from the northern border to the capital in the South is estimated to take three weeks by vehicle—compared to two hours in a plane. And during the rainy season, many places are completely cut off from road traffic. South Sudan's third biggest city, Malakal, population 125,000, essentially grinds to a halt for three months of each year while all of its roads turn to sticky mud. During this time, people move the same slow and tiring way they have for hundreds of years: by foot or mule.

Navigating the roads between cities and across borders is also rather expensive due to the numerous extortion points. Recently, a committee formed by the president found 44 authorized and 65 unauthorized tax collection points operating in just two states: Eastern Equatoria and Central Equatoria.[1]

From bad infrastructure and a lack of regulation, to skills shortages and corruption, doing business in South Sudan is not easy. And the South Sudanese are not any producing goods for export.

But this is forgetting one major observation: *traffic*! Despite these constraints, there is still a significant amount of economic activity. In what follows, we discuss the birth of a new economy in a society which has only recently emerged from a 22-year-long civil war. The pace of growth so far has been fast but uneven. We find that aid and oil money is flowing rapidly into certain sectors, while other employment-generating areas of the economy, particularly agriculture, have barely changed in centuries. As a result, the recent windfall of wealth has yet to translate into tangible development benefits for the majority of the population. In order to achieve growth in these other sectors, there is a need for far more innovation in both government policy and business strategy.

This article is drawn from the findings of a study conducted in June through August of 2011, by seven graduate students from the Harvard Kennedy School, including two of the co-authors, on the emergence of entrepreneurs and the private sector in South Sudan. Our team interviewed over 200 people across South Sudan, including officials at six ministries, two state departments of agriculture, and the UN Food and Agriculture Organization (FAO) and World Food Program (WFP), and managing directors at all eight local banks, four cell phone providers, and several hotels, restaurants, and supermarkets. We also visited five of the ten states where we interviewed farmers, retailers, wholesalers and traders and conducted informal observation. Unless otherwise indicated, the information on challenges in the specific sectors is drawn from this research.

FROM CONFLICT, THE BIRTH OF A NEW NATION

South Sudan achieved independence from Sudan on July 9, 2011, marking the culmination of two civil wars that date back to 1955. The root causes of these conflicts can be interpreted from many different angles, including racial, religious, and post-colonial lenses, but the primary symptom of these afflictions is clear: the South was significantly underdeveloped and its people marginalized on social, political, and economic grounds compared to the North, where the various governments ruling Sudan have historically based their power.

It is difficult to provide a narrative of the conflict in simple cultural terms because there is no "single people" to speak of in either the North or the South. Sudan as a whole has a population of nearly 30 million, with Arabic and Dinka speakers representing the largest language cohorts. Other Sudanese speak 14 minor languages, which are further divided into roughly 100 dialects. About 50 of these dialects are spoken in the South alone. South Sudan's incredibly complex society can be broadly divided into two regional groups: agro-pastoral and pastoral communities in the northern states of greater Upper Nile and greater Bahr al-Ghazal, which have traditionally relied on cattle-raising as their main livelihoods, and sedentary agricultural communities found mainly in the southern Equatorial states. The tribes under which these communities are organized rely on a wide range of governance structures. Only two groups—the Azande based in Western Equatoria State and the Shilluk based in Upper Nile State—are governed as formal kingdoms. The large pastoral societies that make up the majority of the South Sudanese population, including the Dinka, Nuer, Murle, and Mundari, are structured in a decentralized manner, consisting of many independent but interlinked clans and chiefdoms.

Until the 19th century, South Sudan's economy was largely insulated from outside influences due to the country's impenetrable geography. Arab traders from earlier Sudanic kingdoms in the North did traffic in gold and slaves captured in the South. As a whole, however, the South was relatively unaffected by northern kingdoms, though it resisted their expansion southward. Southern societies relied primarily on subsistence agriculture and animal husbandry, and there were almost no efforts to commercialize these activities. Many pastoral communities did not trade in cattle or sell them for meat because of their symbolic role in defining kinship relations. Even today, cows are the primary currency for establishing bride prices, and exchanges of cattle are mostly limited to marriages and other celebrations.[2]

South Sudan's political economy changed dramatically in 1820 with the conquest of Sudan by Muhammad Ali of Egypt, which led the way for further marginalization and exploitation by outside forces. Slave raids increased on a massive scale, and the new rulers demanded tribute in the form of slaves, cattle, or ivory. Not only were slaves employed in the army, as had been done under earlier kingdoms; now, for the first time ever, domestic slavery also became widespread in the north. The Anglo-Egyptian Condominium, which governed Sudan until 1956, further contributed to inequalities between the north and south. Northern and southern states were managed separately under different institutional arrangements, as British administrators wanted to govern the south under an "African" rather than an "Arab" model. Education was actually discouraged among some areas of the south, particularly among pastoralist communities, since British administrators in the Native Administration believed it distanced students from tribal customs. Sudan achieved independence in 1956 under a new government that, in theory, represented both northern and southern citizens. However, southerners were significantly underprepared and underrepresented in the new state. Of the 800 new government positions that the British vacated, only four were allocated to southerners. Aggrieved southern army officers mutinied against the new government in 1955, resulting in the first civil war, which lasted until 1972.

The second civil war, from 1983 to 2005, was fought almost entirely on southern territory. It resulted in significant casualties and displacement among the civilian population, and destroyed nearly all social and physical infrastructure in the region. The discovery of oil in the South in the late 1970s played a pivotal role in igniting the second civil war and complicated efforts towards peace negotiations between the North and South throughout the conflict, as both sides aimed to gain control over oil sources. Immediately after Chevron discovered oil in Bentiu in 1979, the central government took a range of actions—including changing borders so that Bentiu would be in a northern state, offering concessions to Chevron and Total in southern regions, and designing pipelines and refiners that would be built in the North. Southern leaders interpreted these actions as northern attempts to seize control of the oil wealth. The southern rebel army, the Sudanese People's Liberation army or SPLA, targeted many of its initial campaigns at the oil fields, forcing the foreign companies to suspend their operations. Government forces re-seized the area in 1991, and the North began exporting oil in 1999, providing the government with additional revenues which it used to modernize its army and further prolong the fighting.

On the ground, the fight for control over oil translated into the use of brutal scorched earth tactics by northern armies and militias to clear out nearby populations. Fighting within different factions of the SPLA also contributed to the death toll. Out of a total population of 10 million in the South, an estimated 2 million people died because of the conflict or resulting famine and disease, and another 4 million people have been displaced. The second civil war ended with the signing of the Comprehensive Peace Agreement in 2005, under which the South would be governed as an autonomous region for six years and oil revenues were to be split evenly between the two sides. In a January 2011 referendum, nearly 98 percent of the population of the South voted in favor of secession in a referendum, resulting in official independence in July.

OIL AND AID MONEY BIRTH A NEW ECONOMY

From this vicious war, South Sudan emerged surprisingly wealthy. Initial estimates from the country's National Bureau of Statistics put gross domestic product per capita at US $1,546 in 2010. However, 71 percent of this wealth, $9.5 billion in total, came from oil exports. And since foreign investors and the North received a large portion of the oil revenues, the average income for each southerner was significantly lower, at $984. The remaining revenues accrued to the southern government, to the point that oil money made up 98 percent of the government budget in 2010.[3]

The other key source of wealth flowing into the country is foreign aid. Since the signing of the Comprehensive Peace Agreement, the South has been flooded with aid money, including $524 million dispersed by the World Bank-administered Multi-Donor Trust Fund.[4] In total, donor agencies spent over $1.1 billion in 2010, on 395 separate projects.[5] Half these projects were related to health, social development, or humanitarian assistance, although the most expensive projects were in infrastructure. Overall, total aid spending was equivalent to $134 per person, or roughly 14 percent of the average per capita income. This number is more than double the average aid spending per capita for the rest of Sub-Saharan Africa.[6]

However, the recent windfall of oil and aid money has not come without a price. Whereas most economies are born over long periods of time, rapid inflows of wealth have meant that, in little more than a decade, South Sudan has transitioned from an agricultural and pastoralist society to being a part of the modern world economy. As a result, economic growth has been haphazard and highly concentrated in a few sectors.

Where private enterprises arise, they exist almost solely to serve those with oil or aid money: the government and NGO sector. Companies in the construction and service sectors in Juba are booming as result of this spending. And with demand from these external sources outstripping supply, existing firms can make extremely high profits. In contrast, with over 50 percent of the population living below the official poverty line of US $1 a day, private demand from the local population is almost non-existent.[7] As a result, firms have little to gain from catering to the needs of the majority of the population.

Furthermore, South Sudan's economy is starting to exhibit the symptoms and challenges associated with the "natural resource curse";[8] these are further heightened by the effect of large aid inflows. Among these problems are macroeconomic volatility, crowding out of other industries, poor institutions, and civil war. Each is worth a brief consideration.

First, South Sudan is extremely dependent on two volatile income streams. Oil prices are historically uncertain, as is the South's ability to export oil using northern pipelines and processing facilities. Similarly, aid income is not guaranteed indefinitely, and may decline in the future as the glow of independence fades out in the face of allegations of corruption and income mismanagement. Moreover, as aid and oil are the only real sources of hard currency, volatility in this income leads to uncertainty in the exchange rate. Before independence, this uncertainty played out in the black market for US dollars. Despite a fixed official rate, black-market prices for dollars averaged around 30 percent higher than the official rate and were more volatile.[9] Price swings reflected rapid changes in sentiment as well as ad hoc dispersions of dollars by the central bank. For example, fear of civil unrest drove up the black-market price of dollars dramatically in both the lead up to the referendum and at independence.[10]

Second, large inflows of oil and aid money are putting upward pressure on the exchange rate and domestic prices. Scare supplies of human, physical, and financial capital are pulled towards the few industries that have access to new money, leading to higher prices. In particular, demand from aid organizations has contributed to higher prices for amenities such as hotels, restaurants, and taxis; basic goods such as fuel and clean water; and business inputs such as skilled labor and office facilities. Indeed, prices are higher in Juba than in any neighboring country, and they continue to rise. The National Bureau of Statistics recently published an inflation estimate of 62 percent for the year ending September 2011. (This recent spike in inflation is also related to the closure of the north-south border. Imports must now travel longer distances, from Kenya and Uganda, and pass through multiple taxation points at the international border.) Overall, this phenomenon means that there are few incentives to invest in other industries. Input prices are high and output prices are uncompetitive on world markets due to the appreciating exchange rate.

Third, oil wealth is hampering institutional development. The key avenue for this relationship is that the potential for high profits from resource exploitation elicits a political contest for ownership of these resources. Public organizations therefore tend to concentrate on capturing existing rents rather than motivating people to create wealth, for example by pursuing comparative advantage, promoting equality, and fostering civil society.[11] In particular, oil money is contributing to weak macroeconomic institutions. For example, poor management of government oil revenues has contributed to procyclical fiscal spending. As oil revenues have risen in recent years, so too have fiscal expenditures. Oil revenues doubled between the provisional and revised budgets for 2008—but the government did not save this windfall. Instead, it simply revised the budget to allow for a similar increase in spending.[12] Indeed, in interviews we learned that the process of public budgeting is simply a formality, and that money is spent as soon as it comes in.

Volatile oil revenues also hamper monetary policy. Under the fixed exchange rate regime before independence, oil revenues, numerated in US dollars, were sold to banks and foreign exchange bureaus at the official exchange rate. This situation provided multiple opportunities for corruption. We observed that at least a dozen foreign exchange bureaus are positioned within two blocks of the central bank in Juba. Yet none of these establishments ever seemed to be selling dollars to the public. Instead, we were told, money was recycled to black-market sellers, who were conveniently located within the same two block radius. Recently, the scope for corruption has declined as the central bank has issued a new currency, and moved to a regime that includes a managed-float exchange rate and competitive auctioning of foreign exchange. However, the central bank does not have sufficient reserves to counter any significant decline in oil revenues. Indeed, in July of last year, one informant told us, these limited reserves were being used to pay government salaries.

Finally, as mentioned earlier, oil wealth no doubt played a key role in the recent civil war. Perhaps this was the most damaging aspect of the natural resource curse for South Sudan. Going forward, the lure of oil wealth is unlikely to reduce pressures for conflict. Indeed, history suggests that where a valuable natural resource such as oil or diamonds is there for the taking, it will more likely inspire factions to fight over it, than encourage substantial inputs of labor and capital investment.[13] As demonstrated in the second civil war, oil wealth may lead to more intense fighting, as factions can procure more weapons and sustain their fighting for longer periods.

THE DEVELOPMENT OF THE PRIVATE SECTOR: A CHRONOLOGY

Firms in South Sudan are rapidly developing to meet the new demand created by oil and aid money. While only 300 firms were founded in the entire decade of the 1990s, over 2,000 were formed in the first 6 months of 2010. However, the majority of these are micro-enterprises that employ under 5 people. If we focus on larger, formal enterprises—those with more than 20 employees—we find that most formal employment is generated by a handful of industries.[14] Initially, money has been flowing into firms that produce the goods and services most needed by foreign aid and oil companies: new roads, hotels, and other accommodations; imports of modern consumer and capital goods; and telecommunication services. Profits are so high in these sectors that firms are able to overcome the numerous constraints to doing business. On the other hand, the combination of political uncertainty, high and volatile prices, and a lack of basic infrastructure means there is little incentive to invest in other areas of the economy. This is particularly true for agriculture, which employs around 80 percent of the population. As a result, the recent inflow of money has yet to translate into broad-based growth in employment and the economy. In the following sections we provide more details on the five most important sectors for the current and future growth of this new economy.

Construction

Construction is the first area that the recent influx of aid and oil money has been channeled into, making it one of the fastest growing and most profitable sectors in South Sudan. Given the dearth of any public investment in infrastructure during the civil wars, South Sudan at present has less than 100 km of paved roads. Therefore infrastructure development has been a top priority for the new government and major donors. At present, all public infrastructure projects such as roads and power plants are funded with government and donor money. Most of the focus has been specifically on road construction. For example, AMBC, a large joint venture involving Thai and South Sudanese partners, was recently awarded a US $280 million contract to build roads and bridges in the municipality of Juba on a Build-Operate-Transfer model. Work is now spreading beyond the city center, linking downtown Juba to areas in the outskirts such as Jebel Mountain and Gudele. The annual central government budget for transport and roads alone has increased from roughly US $42 million in 2006 to US $150 million in 2010, not including transfers to state budgets. Donor spending also increased. In 2007, the National Bureau of Statistics counted 11 donor projects in infrastructure valued at a total of US $17 million; in 2010 it counted 32 such projects valued at $284 million total.[15]

Private investment in residential housing and hotel construction has increased as well, although no official figures exist yet. Evidence from interviews suggests that most of these projects are commissioned by private enterprises; examples are the hotels owned by Chinese, Ethiopians, and Eritreans that primarily serve expatriate aid workers and government officials. In addition to hotels, private residences are being built for wealthy South Sudanese individuals, mostly military or government personnel. Walking around the Tong Ping district of Juba, for example, our team members could not help but notice the thick plumes of dust rising from the construction sites of multi-storied hotels and private mansions, which have completely transformed Tong Ping from the cattle market it once was.

Thus far, construction is the sector most able to support businesses in a range of sizes, from large firms such as the joint-venture AMBC, the North Sudanese conglomerate Eyat, and foreign contractors, to medium-sized companies that focus on residential housing, to small enterprises like local brick makers and welders. Major public contracts are awarded to the large foreign-owned or joint-venture firms, and the profits from these projects are repatriated back to their home countries. On the other hand, smaller housing and hotel construction projects are typically commissioned by private enterprises, such as the foreign-owned hotels mentioned above, and are carried out by a mix of foreign-owned and local construction companies.

Companies employed by donors such as the U.S. Agency for International Development or Japan International Cooperation Agency to build large-scale infrastructure projects are somewhat insulated from local business practices because they win these projects through competitive bids; their client organizations expressly forbid them to pay bribes when operating in South Sudan. On the other hand, firms that work on private projects or local government-funded projects must navigate a much more complicated environment. Construction projects typically involve large up-front costs and are inherently more risky given the size and long-term nature of projects. Non-payment and delayed payments are frequent; because construction companies have no legal recourse, they are forced to re-negotiate with their clients when contracts are violated. In an environment without strong institutions, many firms turn toward influential locals, who can help connect businesses to trustworthy clients, assist in securing public contracts, and smooth other potential difficulties. For example, the foreign project manager for a major construction company characterized his partnership with an influential local businessman as a strategic alliance. The businessman helps build relationships with potential clients, while the foreign partners supply financing, technical know-how, and human capital. Like many other construction firms in South Sudan, this particular company employs only foreigners in its engineering and managerial positions and hires local laborers for manual work.

That said, even the most successful construction firms must overcome significant constraints in their day-to-day business. The government is notorious for late or irregular payment of contracts. Subcontractors can also be unreliable. Access to foreign exchange is an ongoing concern, as virtually all input materials, such as cement, pipes, and steel, are imported from abroad. Although small local firms in Juba provide brick and gravel, and welding services, these firms typically operate on a much smaller scale and serve local clients such as individual households. A North Sudanese businessman, whose family owned several properties in Juba including upscale hotels and warehousing facilities, explained that he preferred to bring in Kenyan technicians and import all building materials from Kenya or China, rather than rely on cheaper locally-made materials, in order to ensure quality during the construction process.

Trade and Transport

Other sectors benefiting from the new economy are trade and transport. The demand for imports generated by aid and oil money, combined with limited competition in these sectors, means traders and transport companies often make huge profits. Although they face many constraints to doing business, their oligopolistic market power means they can simply pass on these constraints in the form of higher prices for the end consumer.

As in other sectors, there is a divide between the large, formal companies that primarily serve the government and donors and the smaller, informal businesses that serve local retailers. In our interviews with the leading foreign transport companies such as the French SDV Logistics, and Interfreight and SPEDAG, two recently merged Swiss companies, we learned that a total of seven foreign shipping companies are serving large customers such as the government of South Sudan, UN agencies, and other NGOs. On the other hand, local businesses rely on Ugandan- or Kenyan-owned companies that specialize in specific products, such as importers of Ugandan-produced foodstuffs that then sell the items wholesale in Juba.

While South Sudan exports crude petroleum, it imports almost everything else, including foodstuffs, consumer goods, capital goods, and construction materials. As a result, freight vehicles from Uganda and Kenya travel to Juba fully loaded, only to return empty—and the cost of returning empty vehicles must be added to the price of imports in South Sudan. Many other factors also add to the cost of importing goods, including poor road conditions, insecurity in some areas, high tariffs, checkpoint delays, and illegal taxation. On average, our contacts at SPEDAG said, firms in Juba pay between US $6500 and US $7700 to ship a 40-foot container from the Mombasa port to Juba, via the Nimule border point. A recent survey by the Bureau of Statistics found that transporters face an average of four checkpoints per 100 km. For example, there are around six checkpoints on the 163-km main trade road from the Ugandan border to Juba. Drivers usually make payments at 97 percent of the checkpoints.[16]

What's more, we learned in interviews, many industries in the transport sector have established private associations that behave like cartels, setting high prices to offload goods, provide fuel, and clear fees at customs stations. The end result is very high consumer prices in South Sudan. Indeed, a study by the

World Bank found that basic food substances were substantially more expensive in South Sudan than in nearby countries. For example, by the time a ton of beans is transported from Kampala (Uganda) to Juba, its wholesale price almost doubles from $675 to $1075. Transport and logistics costs ($145 per ton) as well as duty and other official charges ($218 per ton) contribute substantially to the mark-up. Other regionally traded products, such as maize, water, beer, and cement, were found to exhibit similarly large trading costs.[17] However, these high prices in the trade and transport sectors are not that surprising. That is, in such a young economy, with great political uncertainty and many constraints to doing business, high rents are necessary to stimulate investment.

Given that widespread demand for imported products is relatively recent, this sector has yet to build up a diversified product base. At most markets in Juba, homogenous micro-sellers offer a few food items: typically tomatoes, eggs, onions, okra, and occasionally, salted fish. This lack of diversification may result from the demand side—as consumers traditionally required only a limited range of goods—or from the supply side, as traders lack affordable access to other products. Historically, the majority of traders and wholesalers were Arab businessmen from the North, particularly in areas closer to the border. However, many have recently returned to the North due to fears about political turmoil, or have deliberately kept their inventories low in anticipation of a sudden need to move, according to our informants. The result is an inexperienced trade sector and higher prices in cities like Malakal, which has historically relied on Arab traders for food imports.

The trade sector could clearly benefit from innovation and competition. For example, some entrepreneurs have recently established successful, diversified retail outlets that cater primarily to the aid community. These firms are typically owned by Westerners who leverage their networks to import European and North American branded food products and basic consumer goods. However, we found little evidence of traders supplying diversified products to the local market.

High potential for profit means there is also scope for innovation in the transport sector. In particular, the potential for river transport for both passengers and goods has not been fully exploited. River transport remains the only practical and cost-effective way to reach communities along the White Nile and its tributaries, particularly during the rainy season when the dirt roads in Jonglei and Upper Nile

State are virtually impassable. However, many Northern-owned river transport companies have stopped operating since independence, leaving a void for domestic companies to fill.

Telecommunications

While they represent only a small sector of the economy, telecommunication companies are capitalizing on the rapidly growing demand for their services. From aid workers and foreign businessmen, to government officials and local traders, over 1 million people in this new economy are moving around with a domestically serviced cell phone in their pocket. Cell phones are revolutionizing Africa, and South Sudan is no exception.

The telecommunications industry includes five main players and a series of small ones. People at these firms estimate that the potential market is double its current size, or 2 million viable users, and could be 3 million in three years. With many companies and relatively few customers, it is likely that the industry will soon pass through a consolidation phase. This may not necessarily be a disadvantage: granting greater market power to a few companies may make industry coordination easier and actually help spur infrastructure investment.

Yet the sector is still very new, and faces many challenges. In particular, regulatory uncertainty is deterring investment in the large-scale infrastructure required to increase the network. As a result, coverage is currently concentrated in the larger population centers.

While it is one of the most modern sectors of the economy, telecommunications still has enormous scope for innovation. As in other developing countries, firms and NGOs can capitalize on widespread cell phone coverage to bring low-cost services to large sections of the population. For example, cell phones have been successfully used to connect under-serviced communities to medical services in West and East Africa. Another particularly important area for innovation is mobile-phone banking. South Sudan need only look to its Kenyan neighbor to see how the introduction of M-Pesa has made banking services available to almost the entire country. Given the highly rural population, a mobile banking model is the fastest and lowest-cost way to bring financial services to South Sudan.

Agriculture

Currently about 80 percent of South Sudan's population is engaged in agriculture. However, most farmers cultivate small plots and grow only enough staple crops, such as corn and cassava, to feed their families. Many do not cultivate enough for even their own consumption; the UN Food and Agriculture Organization (FAO) and the World Food Program (WFP) estimated that South Sudan would face a cereal production deficit of 390,000 tons in 2011, leaving 890,000 people severely food insecure and an additional 2.4 million people moderately insecure.[18] Even in areas with food surpluses, only a small quantity of food is sold in local markets. A very small amount is sold in large urban markets, where food items ranging from basic cereals to more expensive fruits and vegetables are imported from Uganda, and nothing is exported outside of the country. These observations raise two questions: Why are farmers in South Sudan not selling their output to others? And why do farmers not invest more to increase their productivity?

South Sudan is approximately the size of France, with a population of under 10 million, giving it a population density of 34 people per square mile, equivalent to that of Norway. At present, only 4 percent of land is cultivated, mostly in the fertile "greenbelt" zone in the southern part of the country and along the Nile River and its tributaries.[19] The bulk of the agricultural sector in South Sudan consists of small subsistence farmers and pastoral and agro-pastoral communities. Subsistence agriculture has always existed in South Sudan, even during the civil war, and will continue to exist as the dominant method of food production, unless significant private investment and innovation can be encouraged.

"Private sector investment" in the form of small farmers investing in inputs, equipment, or new planting methods to increase production is extremely limited: most small farmers are vulnerable to weather conditions, insecurity, and disruptions stemming from the resettlement of displaced peoples, and virtually no farmers have access to any form of lending, including microfinance. On average, smallholder farms are 5 feddans (1 feddan is about 1.03 acres) or smaller and rely on traditional farming methods and basic manual tools. As a result, production yields are extremely low. The FAO and WFP estimate that South Sudanese farmers produce, on average, .95 metric tons per hectare, whereas Ugandan farmers produce 1.539 metric tons per hectare despite a population density that is 10 times higher.[20]

Within the past year, however, more South Sudanese business people have come to own and operate commercial farms. Compared to foreign investors, they find it much easier to get land from their own tribal communities. In some parts of the country, local governments are taking the initiative to attract and promote commercial farming. For example, Upper Nile State, which has historically had much commercial farming due to its proximity to North Sudan, is starting a local effort to survey and demarcate land on a county-by-county level. Unused land that is not reserved for the community is leased to agricultural investors for 15 years, with the stipulation that the county may take it back if it is left uncultivated for five consecutive years. Most of the South Sudanese who invest in such commercial farming schemes are entrepreneurs with diverse backgrounds in other activities; they started investing in agriculture as a way to diversify their business portfolios. Most of these investments started in the past year or two as pilot projects on a relatively modest scale (500 feddans). Although some commercial farms use tractors and employ managers with considerable technical expertise, they are not in fact that different from subsistence farmers: most rely on traditional labor-intensive farming methods, since machinery remains difficult and expensive to acquire. In addition, virtually all existing projects are self-financed because bank loans are unavailable.

High production costs are common constraints for both commercial and subsistence farmers. Given South Sudan's small population and scarcity of skilled labor (including people who are trained in modern farming and husbandry methods), the cost of labor is extremely high. For example, one farmer told us that it costs roughly SDG 200, or US $75, to hire male laborers to clear one hectare of bush; the work requires around 10 workers for one day, depending on the thickness of the vegetation. This translates into a daily wage of US $7.50 for male laborers involved in preparing land, compared to a daily wage of US $1.15 for male workers performing the same task in Southern Vietnam.[21] In addition, access to markets is limited by poor road conditions and lack of information on market pricing. For example, farmers who produce a surplus in Western Equatoria find it too costly to transport their produce to Juba, located in the adjacent state of Central Equatoria, despite higher market prices in the capital city. Although farmers' cooperatives, such as the Yambio Agricultural Farmers' Association and the Nzara Agricultural Farmers' Association in Western Equatoria, have succeeded in selling their members' crops to large buyers such as the WFP, they have a much harder time finding large-scale buyers in the private sector. Anthony Ezekiel Ndukpo, the secretary general of the Yambio group, estimates that hiring a 20-ton truck for one day to transport crops from Yambio and Juba costs SDG 7000, much higher than the association's breakeven point of SDG 2000. As a result, farmers in Yambio are restricted to local markets, which are too saturated with surplus crops to generate much profit.

The experience of farmers in Yambio suggests that South Sudan will not develop a strong agricultural sector until transportation costs drop. One way for the agriculture sector to take off is if we see a situation in which transport costs are reduced significant through improved roads, less expensive fuel, and higher competition in the trucking industry. The aggregate effect of these cost reductions is an increase in the volume of agricultural trade, resulting in higher competition and lower costs within the sector. In order for this scenario to take place; however, it would require massive recycling of rents into public investment in infrastructure as well as lowered inputs costs, the very opposite of present day in which rents distort markets by driving up prices.

In the meantime, the lack of accessible markets in the status quo discourages farmers in fertile, surplus-producing areas from investing more to increase productivity. Meanwhile, people in other parts of the country suffer from food scarcity and much higher prices. Although agriculture can potentially be a major source of income for South Sudan, the sector remains under-commercialized to date.

Manufacturing

Manufacturing is a nascent industry in South Sudan but has the potential to grow. At present, only a handful of large, formal, and foreign-owned manufacturing firms exist in South Sudan, clustered around Juba. These businesses are all foreign owned and employ between 100 and 300 workers each. They produce consumer goods: inexpensive beverages such as beer, soda, and bottled water that are sold to domestic consumers in South Sudan. Interviews with several firms suggest that the main reason they based their operations in South Sudan was to avoid the high transportation costs if they were to import the same products from neighboring countries. On the other hand, many small firms operate on an informal basis, including the brick makers and welders who serve local construction projects. The 2010 South Sudan Business Survey, conducted by the country's Bureau of Statistics, counted 110 such small-scale manufacturers in Juba alone.[22] Although the manufacturing sector faces many constraints, there are significant opportunities for expansion in the future, particularly as consumer demand rises with a growing economy.

Weak infrastructure is the primary constraint facing the manufacturing sector. Virtually all existing businesses in Juba rely on their own generators, since city power is sporadic and insufficient. Michael Beyene, general manager of the Aqua'Na Bottling Company, one of the four major suppliers of bottled water in Juba, calculates that power generation alone represents roughly 20 percent of the firm's operating costs. Poor road conditions also limit firms' distribution networks, both internally and with regard to potential export markets. In addition, most manufacturing businesses require a large up-front investment in physical infrastructure, which can deter investors who cannot secure a safe, long-term land usage agreement. Land is communally owned in South Sudan, and finding a community that is willing to negotiate a long-term land lease deal can take a significant period of time—over two years in some cases. Firms also face high labor costs because the existing labor pool has so few skilled workers.

Despite these challenges, there are opportunities for growth. The phenomenon of South Sudan's impassable roads offers an unexpected benefit to the sector: high transportation costs can function as a nascent industrial policy in the sense that they make domestically produced goods more competitive than expensive foreign imports. This is supported by the fact that virtually all the goods produced within South Sudan to date have been fast-moving consumer goods that generate profit through low margins and high volume. Although manufacturing for export may be difficult to achieve in the short run, there is significant potential for production aimed at the domestic market, which is expected to grow as household consumption levels increase. Other constraints such as lack of skilled labor and the difficulty of securing land are also surmountable by those who are patient enough. Ian Alsworth-Elvery, managing director of South Sudan Beverages Limited (SSBL), a subsidiary of the global brewing conglomerate SABMiller, estimates that the company initially had to spend much more time and resources training workers in South Sudan compared to its operations in other developing countries. However, the firm developed a two-pronged training approach: it sends local staff to sister operations in Kenya and relies on expatriate staff for on-site training. This strategy has been successful enough that the company now relies on all local workers, with the exception of five expatriate employees. In terms of securing land, the company took roughly two years to find and negotiate a land lease agreement with a local Bari-speaking community. The company eventually leased 13 hectares of land and came up with an arrangement where the community itself was a financial stakeholder in the business, earning a royalty on each bottle of beer sold by SSBL.

CONCLUSION: FROM CONCENTRATED PROFITS TO EMPLOYMENT-GENERATING INNOVATION

The end of decades of civil war and large inflows of aid and oil money are dramatically changing the economy of South Sudan. Only a few years ago, the majority of people were living just as they had for centuries. Now, we are now seeing the birth of a modern economy. Our findings suggest that the organic development of South Sudan's economy by the invisible hand of the market will begin to produce a rentier, importing state, with the winners located in a few specific sectors that absorb aid and oil money. That said, this version of the economy will offer few tangible benefits to the majority of the people of South Sudan. This is particularly true for the agricultural sector, which sees little private investment in the existing business environment, precisely because it does not cater to the needs of the government officials and aid organizations whose spending drives growth in the construction and hospitality sectors.

To reverse this situation, far more innovation is needed, both in government policy and in firm strategies that encourage the kinds of business activity that will translate into inclusive growth. We believe that relying on invisible market forces will cause South Sudan to go down the unfortunate path of many other natural resource dependent states—in other to avoid this outcome, it is absolutely necessary to have active government interventions aimed at supporting greater experimentation in both policymaking and in the private sector.

To a limited extent, we found some innovation already occurring on a local level, such as informal practices adopted to fill in gaps where formal institutions and policies are nascent or non-existent. For example, communities in Upper Nile State have initiated their own effort to survey and rent out land on a county-by-county basis rather than wait for the official passage of the national Land Act. Interview evidence suggests that community leaders were motivated to get a head start in attracting private agricultural investors, as many commercial farms, historically owned by northern investors, were sold off in the lead-up to independence.

It seems that the very deficiencies in South Sudan's business environment may be an impetus for firms to adopt more innovative strategies given that the first-best solution is often not feasible.[23] For example, the lack of vocational schools and technical institutions, and the disruption in schooling and economic activities during the civil war, are major impediments to accumulating human capital, especially in the form of business skills. Despite these hurdles, we found evidence that firms in South Sudan are implementing organizational learning and seeking out new skills so they can survive in the changing environment that peace has brought.

For example, of the 40 or so firms that make up the Yambio Chamber of Commerce in Western Equatoria State, almost all started as small trading companies that operated during the civil war, with traders crossing from South Sudan to the Democratic Republic of Congo or Uganda to import basic goods. Since the Comprehensive Peace Agreement was signed, these firms have been the ones most able to take advantage of the improved security situation in order to expand their businesses. Interviews with member firms suggest that their original trading activities helped them gain essential business capabilities such as managing large numbers of workers and negotiating contracts with suppliers and distributors. In addition, these firms have already been exposed to foreign businesses, whose practices they can now emulate. Many members of the Yambio Chamber of Commerce have recently decided to develop more specialized business models and move beyond general trading; they now operate restaurants, hotels, beer distributorships, and automotive parts dealerships. In one case, 24 traders in Yambio have banded together to form SOMAG (Sorghum Maize and Grains), an agricultural marketing company that seeks to aggregate and purchase cereal crops from local farmers, to sell them to large-scale private buyers.

Although South Sudan's new economy is currently growing rapidly, and will continue to grow without the adoption of more innovation, this growth may offer few benefits in the form of meaningful employment, higher incomes, or better nutrition for the majority of its people, who continue to rely on subsistence agriculture and are largely isolated from the developments taking place in other sectors. So far, new agricultural ventures such as SOMAG are exceptions to the norm, and it is uncertain whether these new firms will actually be profitable a few years from now. However, allowing this kind of experimentation to take place is absolutely necessary if South Sudan us generate more innovative policy and business strategies. By doing so, South Sudan can direct the trajectory of this new economy, so that its emergence will be a truly transformational process that improves the livelihoods of its newly independent people.

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19 Primary data provided by FAO’s land-coverage database, located at the South Sudan Ministry of Agriculture and Forestry.

20 FAO and WFP, “FAO/WFP Crop and Security Assessment Mission.”

21 Caroline Brassard, “Wage and Labour Regulation in Vietnam within the Poverty Reduction Agenda” (draft paper, National University of Singapore, 2010).

22 SSNBS, Business Survey, 2010.

23 The first-best solution is the technically correct, best-practice policy action that is often not feasible due to the specific constraints within a developing country. To bypass these constraints, second-best solutions may be employed that often do not fit the standard form of policy prescriptions. See Dan Rodrik, *One Economy, Many Recipes: Globalization, Institutions and Economic Growth* (Princeton, NJ: Princeton University Press, 2011).