Inflation in South Sudan

1. Background & Summary

South Sudan’s current macroeconomic performance is being significantly affected by the closure of oil production. In this context, understanding the dynamics of last year’s sharp price increases appears particularly relevant, as high inflation harms the economy, complicates policy making, can create political instability, and also has a significant negative impact on the poor. For more than a year, South Sudan has been facing high levels of inflation. As of early 2012, the price level is twice as high as it was before the referendum in January 2011. A weakening currency, as a result of the stop in oil exports in January 2012, is likely to fuel further price increases. Such fast rising prices render economic transactions and trade challenging. Moreover, effective policy formulation and economic planning becomes difficult with high inflation. Most importantly, rising prices impact people’s welfare through reduced purchasing power and tend to cause increased food insecurity and poverty, even among rural populations not directly involved in the modern cash economy. Such welfare effects can easily become another source of tension in an already fragile context. Neighboring countries, such as Kenya, Uganda and Sudan have in recent months seen social unrest and political upheaval over much lower rates of inflation than what South Sudan currently is facing. Addressing inflation is therefore not only important from an economic perspective, but also vital to ensure political stability and security in South Sudan.

This note identifies a number of factors that, combined, have contributed to South Sudan’s high level of inflation. A key driver of inflation is the significant weakening of the currency, which has led to higher prices of imported food. In addition to the effects from the weaker currency, prices of imports have also picked up because of supply constraints related to border restrictions with Sudan and import bottlenecks along the southern border with Uganda and Kenya. South Sudan’s rapidly expanding aggregate demand, combined with logistics constraints for imports, has also contributed to bringing prices up across the economy. Although global and regional price trends have had a clear impact on prices in South Sudan in previous years, such external factors cannot explain the level of price increases seen over the past year.

Although inflation has eased in December 2011 and January 2012 because of the relative strengthening of the South Sudanese Pound (SSP), the shutdown in oil production could lead to further price hikes because of a weakened currency. Without exporting oil, South Sudan’s foreign currency earnings will be highly diminished. Unless foreign currency earnings are re-established, further depreciation of the SSP seems inevitable. A depreciation of the currency will make imports more expensive and lead to higher prices. This effect is likely to be particularly severe in the coming months, with the country entering the lean season during which most of the country depends on imported food. In addition to currency effects, policies aimed at reducing the fiscal gap resulting from lack of oil revenues, such as sales taxes, import duties, and printing money, would also fuel domestic inflation. Unless the fiscal and currency challenges are tackled, the economy is likely to experience stagflation – the combination of a deep contraction in output and high inflation.
Figure 1: The price level increased rapidly during 2011.

Figure 2: High year-on-year inflation rates in 2011.

Figure 3: Month-to-month inflation has been variable.

Figure 4: High inflation in all categories of goods.

Figure 5: Food contributed the most to the price increases.

Figure 6: Price increases lower in Juba than elsewhere.
2. Recent trends in prices in South Sudan

Prices in South Sudan started climbing fast in the 2nd half of 2010 and had nearly doubled by the end of 2011. Figure 1 shows the development of the consumer price indices (CPI) in South Sudan over the past two years. The CPI measures the price of representative basket of goods typically consumed by South Sudanese households and is therefore a measure of the overall price level faced by South Sudanese consumers. As shown in Figure 1, the price level in South Sudan was relatively stable until the end of 2010, but then increased dramatically during most of 2011. Price increases slowed down in the last two months of 2011 and early 2012.

The annual headline inflation rate (Figure 2), which is the percentage change in the price level over a 12 month period, reached a high of 79% in November 2011. In January 2012, the annual inflation rate was down to 48%. The relatively large fall in the annual headline inflation figure from 79% in November 2011 to 48% in January 2012 does however not imply that the overall price level has fallen, but just that prices have stabilized in December 2011 and January 2012. Even with stable prices, it would take 12 months for the year-on-year inflation rate to fall to zero. Monthly price changes, which are a more intuitive indicator to understand short term price changes, have been variable throughout 2011. As seen in Figure 3, the months of November, December and January showed a distinct slowing down in monthly price increases.

Inflation has been high, but variable, across all categories of goods and services. Figure 4 breaks down annual price increases in broad categories of goods collected in the monthly price surveys conducted by the National Bureau of Statistics. Particularly concerning is the high increase in food prices seen over the past year, since food inflation typically hurts the poor disproportionately, due to the higher share of food in the poor’s consumption basket. With a national poverty headcount at 51%, such high food price inflation can be critical in the case of South Sudan. Although some poor rural households may be net producers of food (producing more than they consume), and thus less impacted by the high food inflation, the very limited agricultural sector in South Sudan and the unusually high reliance of imported food suggest that the poor are also dependent on foreign imports, which have been severely affected by inflation. For more details on how inflation is affecting the poor in South Sudan, please see Box 1.

The increases in prices have varied throughout the country and have been much lower in Juba than in other areas. Figure 6 shows separate CPIs for the three locations where NBS has collected price statistics from June 2011: Wau, Malakal and Juba. In Malakal, the prices have more than doubled in just half a year, while in Juba the increase has been close to 30 % over the same period. NBS calculates the national CPI using 15% weights for Wau and Malakal and 70% for Juba. Since the price developments have been so different across the country, it is important to consider this significant geographic variation when analyzing drivers and impacts of the price changes.

During 2011, the high level of inflation has mainly been due to increases in imported and local food products. Although price increases have been large in other categories, food products account for about three-quarters of the basket of goods used in South Sudan’s Consumer Price Index (CPI), and have therefore been the main contributor to high levels of overall inflation. Figure 5 shows the relative contribution to CPI-inflation of different categories of products. It shows that food is the most important category, responsible for 70-90% of inflation over most of the past 12 months, with a declining share in recent months.

Key staple food products have contributed most to the increases in cost of living for the average South Sudanese consumer. Table 1 ranks the ten items which have contributed most to inflation over the last half of 2011. Notably, important food products such as sorghum (both grain and flour) and sugar are the most important drivers of inflation, seeing large price changes and also constituting a large share of the typical consumption basket. Both mainly imported and mainly locally produced goods are among these key drivers of inflation. This table reflects the drivers of inflation more accurately than the categorical breakdown in Figure 4, as it takes the weights (share of household expenditure on each of the goods) into account.
Key political developments in South Sudan over the past year seem to be associated with the two accelerations of inflation in South Sudan seen over the past year. As illustrated in Figure 7, at the end of 2010, the initial pickup of inflation took place leading up to the referendum, a period with political tensions during which border restrictions with the North were imposed. The second acceleration happened at independence in July 2011, when South Sudan issued its own currency and the border between Sudan and South Sudan was closed.

Box 1: Impact of inflation on the poor
An important question is how inflation is affecting the poor and rural population in South Sudan. Although 80% of the population reports to be producing food for own consumption, the quantities produced are small and vary seasonally. While estimates vary, the latest assessment released by FAO and WFP in February 2012 stipulates that South Sudan only produces 54% of its own consumption of staples, such as sorghum, maize and cassava. Figure B.1.1 shows how large areas of the country are in large deficits, in terms of staple food production. These estimates indicate that very few households are self-sufficient in food production and partly depend on markets for key goods. This suggests that higher food prices can have a dramatic, negative affect on a large share of the population, not only those in urban areas.

Even pastoralist and people not directly linked to the modern cash economy are poorer in real terms as a result of increases in grain prices. Estimates of terms of trade for pastoralists show that the price of grain staples have increased more than price of livestock. While both grain (sorghum, maize, wheat, etc) and livestock prices have increased, livestock prices have increased at a slower pace than cereal prices since mid-2011 leading to a deterioration of the terms of trade for pastoralists which depend on sale / exchange of their livestock for purchasing grain. This can be linked to the depreciation of the exchange rate and the difficulties importing food from the North. Figure B.1.2 shows an example of the extreme reduction in terms of trade for pastoralists trading goats for sorghum, as experienced in Wau during 2011.

Table 1: Food products dominate the top 10 drivers of CPI over the last 6 months of 2011

<table>
<thead>
<tr>
<th>Item description</th>
<th>CPI Weight</th>
<th>Weighted</th>
<th>Contrib. to CPI</th>
<th>Main Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorghum (flour)</td>
<td>9.18</td>
<td>3.32</td>
<td>Imported</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>3.55</td>
<td>2.58</td>
<td>Imported</td>
<td></td>
</tr>
<tr>
<td>Dried fish (local)</td>
<td>3.69</td>
<td>2.50</td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td>Sorghum (grain)</td>
<td>12.38</td>
<td>2.14</td>
<td>Imported</td>
<td></td>
</tr>
<tr>
<td>Mango (Manga)</td>
<td>2.08</td>
<td>1.58</td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td>Cooking oil</td>
<td>3.07</td>
<td>1.22</td>
<td>Imported</td>
<td></td>
</tr>
<tr>
<td>Liquor</td>
<td>0.48</td>
<td>1.19</td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td>Goat meat</td>
<td>3.85</td>
<td>1.02</td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td>0.86</td>
<td>1.00</td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td>Fresh milk</td>
<td>2.23</td>
<td>0.99</td>
<td>Imported</td>
<td></td>
</tr>
</tbody>
</table>
3. Drivers of inflation in South Sudan

There are several possible causes of the high levels of inflation in South Sudan. This section outlines some key hypotheses and assesses available evidence for each of these. First, the note investigates the effect of the exchange rate. Second, a range of supply side effects related to import and internal trade constraints are assessed. Third, we look at demand side effects, in particular government spending, and fourth, we consider external shocks.

3.1. Exchange rate depreciation and the effect on import prices

The weakening of the South Sudanese currency has been closely correlated with inflation and appears to be a key driver of the high inflation seen in South Sudan. Shortly after independence in July 2011, South Sudan issued its own currency, the South Sudanese Pound (SSP), and established its own monetary and exchange rate policies. The official exchange rate has been fixed against the US dollar. However, the parallel market exchange rate for the SSP lost value rapidly in August, September and October of 2011. The weakening of the South Sudanese Pound with the US dollar follows a very similar trend to the increase in prices, as shown in Figure 8. As the SSP strengthened in November and December, price hikes were reduced and contributed to a stabilization of prices and a reduction in the rate of inflation.

This observed relationship between inflation and the exchange rate is also confirmed with regression analysis. Table 2 shows regression results from an error correction model of determinants of inflation. The results shows that the short term effect of a 1 percentage point depreciation of the South Sudanese Pound leads to a 0.26 to 0.40 percentage point increase in the price level (CPI), depending on the specification used. Other determinants were analyzed, such as public expenditure, prices in neighboring countries, global food prices and global fuel prices, but found statistically insignificant as short term drivers of inflation, possibly because of relatively few observations available for analysis.

Since a large share of the goods in South Sudan is imported, depreciation of the currency is likely to have a large and direct effect on inflation. Table 3 reports crude estimates by NBS which show that about half the typical South Sudanese consumer’s consumption basket is imported. This is reinforced by findings from field assessment conducted by the World Food Program and FAO also suggest that only 54% of staple consumption in South Sudan is produced in the country, while the rest is imported. Consequently, nearly half of a typical consumer’s consumption is imported and directly affected by changes in the exchange rate. (See Box 1 for more detailed discussion).

Nevertheless, there does not seem to be a substantial difference in the price developments of imported versus locally produced goods, as seen in Figure 9. If currency is the main driver of inflation, one would expect imported
goods to have a higher price increase than domestically produced goods, at least in the short run until markets adjust. However, it is difficult to identify truly locally produced goods as even services are often performed with imported labor and thus affected by the exchange rate. Moreover, since most essential goods such as food are imported, the general price level increase is also transferred to domestically produced goods through higher living and labor costs.

An additional mechanism through which the new South Sudanese Pound affects inflation is through its limited convertibility in neighboring countries. Traders report that the new currency has not gained trust in other markets and is not convertible outside of South Sudan. Traders in neighboring countries are therefore less interested to hold South Sudanese Pound and requiring significant premiums to trade in the new currency. This has probably contributed to a relative weakening of the new South Sudanese Pound compared to the previous Sudanese Pound which was convertible in main trading partner countries. With the increased pressure on the currency following the shutdown of oil production in January 2012, South Sudanese Pounds are even more risky to hold for traders. In Nimule, on the border to Uganda, much of the exchange already happens in Ugandan shillings partly because of the limited convertibility of the South Sudanese Pound outside of South Sudan.

### 3.2. Supply side effects: external/internal trade barriers & decline in food production

During the past year, the restrictions in cross border trade between Sudan and South Sudan have constrained imports of goods from Sudan. Until separation of the two countries, Northern Sudan was a key provider of both food and fuel for Southern Sudan. The restriction of supplies from Sudan has particularly driven inflation in the Northern states of South Sudan. Key staples, such as sorghum, were previously imported from areas north of the border. This supply has gradually been cut off over the past year. Consequently, some regions near the border have seen prices of key food items more than triple in the past year. Reflecting trends similar to the regional differences in the CPI seen in Figure 6, Figure 10 (A) shows the geographic distribution of changes in the price of sorghum for the past 12 months, showing increases of more than 200% in some towns, while in Juba the increase has been much smaller. Similarly, the differences in fuel prices are large, with prices in Malakal reaching levels three times that of Juba. These geographic differences in prices clearly show the strong impact the closure of the border has had on inflation in areas near the border.

The high effect on fuel prices caused by the border restrictions with Sudan has also had an important effect on inflation in the country. Before the January 2011 referendum, South Sudan imported most of its fuel from Sudan, at a subsidized rate of 3 SDG per liter. Since border restrictions were imposed around referendum and gradually
tightened during the first half of 2011, prices for petroleum has increased to 6 SSP in Juba and have reached much higher levels in the Northern parts of South Sudan. Fuel is now imported from East Africa at a much higher cost. According to a 2008 FAO study, transportation costs accounts for 15-40% of marketing costs of food in South Sudan, highlighting the large effect increased fuel prices have on final retail prices of food and other goods in South Sudan. With the shutdown of the border with Sudan, this share has probably increased.

Another factor affecting supply prices in South Sudan are the many road blocks and check points along major trade routes, which add considerable costs to supply of goods. A survey conducted by the NBS in December 2010, revealed that, on average, a check point was present every 25 km along major trade routes in the country. Furthermore, it estimated that for every 100 km travelled, payments of more than SDG 200 were made and approximately two hours was added to the total journey time because of checkpoints. In addition to such internal barriers, considerable import duties and fees are charged at the border. Although these factors explain the much higher prices seen in South Sudan compared to neighboring countries, report suggest that these barriers have rather decreased than increased over the past year and import duties and charges have remained largely stable. Thus, such barriers are probably not a key factor for the increases seen in the recent year.

A bad harvest in 2011 caused lower domestic supplies of cereals and may also have contributed to higher prices as result of higher reliance on imported goods. According to the FAO and WFP study on food availability, national cereal production in 2011 was estimated at 562,600 tons, which is about 19% below 2010 output and 25% below the and the average of the last five years. This is partly due to unfavorable weather conditions but also due to disruption of financing of agriculture in the border areas in the North of the country (particularly the Renk area), where the Northern government previously provided financing of agriculture.

In summary, supply constraints through reduced production and obstruction of trading routes have hit the Northern parts of the country more severely than the rest of the country. Areas in South Sudan close to the northern border used to have lower food prices than Juba, but this has been inverted over the past months. Not only do these large price differences reflect the problems of constrained supply from the North, but it also highlights the internal supply constraints in South Sudan. In the absence of internal trade barriers, one would expect to see prices equalize across a country. However, because of limited road infrastructure and large security challenges on the trade routes running between Juba and northern areas of South Sudan, large prices differences between southern and northern areas of South Sudan remain.

Figure 10: Inflation much higher in region close to the border

A. Sorghum (Oct 2010 to Oct 2011)

B. Petrol prices (Oct 2011)

Sources: WFP Vam, World Bank Estimates
3.3. Demand side effects

While there are evident supply constraints, also on the demand side there are a number of issues which may have contributed to driving inflation.

South Sudan’s rapidly expanding economy and increased government spending may be an important driver of inflation. South Sudan’s annual growth rate estimated at above 30% and an already large government budget estimated to increase more than 50% from the 2011 budget to FY12. With such rapid expansion of aggregate demand, it is not abnormal to see overheating of the economy, leading to excess demand and inflation. The government sector constitutes more than 50% of non-oil GDP and is the main driver of the extreme expansion in aggregate demand. Such expansionary aggregate demand combined with the inelastic supply caused by constraints in imports, is a combination of forces which can easily lead to inflation. Figure 11 illustrates the large increase in monthly expenditures and Figure 12 shows the large size of government expenditure between compared to similar countries.

Consumer demand is also increasing due to an increasing number of Southern Sudanese currently residing in Sudan returning to South Sudan. Over the past year alone, more than 200,000 people have returned to South Sudan. The influx of returnees is generating increased demand in South Sudan which would drive up prices, particularly in the areas close to the Northern border where many of the returnees currently are located. At present, there is still an estimated 500,000 South Sudanese still residing in the Republic of Sudan, which is required to leave the north or regularize their stay in Sudan. This will increase the demand pressure, particularly in areas in the North where price increases already have been large.

Figure 11: Inflation has increased with Government expenditure.

Figure 12: Government consumption expenditure is large compared to its peers.

3.4. Global and regional price developments

Prices of food and fuel, important contributors to inflation in South Sudan, have seen increases both globally and in East Africa in recent years. It is natural to assume that such global and regional price changes can have had an effect on inflation also in South Sudan. In the past, price developments in South Sudan have followed the trends neighboring countries. However, since independence in June 2011, the trend in South Sudan has deviated from both global and regional. As seen in Figure 13, regional inflation figures have stabilized in recent months, yet South Sudan’s inflation has shown no sign of decline and rather accelerated. Moreover, global food prices have actually fallen since July 2011, while South Sudan’s food prices have increased sharply, as seen in Figure 14. We therefore rule out that regional and global price developments are a key driver of the high level of inflation that South Sudan has seen over the past year.
Figure 13: Inflation in South Sudan higher than in neighboring countries which are stabilizing

Figure 14: Food prices kept increasing in South although global food prices are declining since 2010

Sources: NBS, and NSOs of Ethiopia, Kenya and Uganda.
Sources: FAO food index and NBS

4. Conclusions and Recommendations

This note has shown that external factors, such as global food and fuel prices, were only marginally responsible for the very high price inflation in South Sudan in the past 12 months. Instead, the price increases and its drivers are specific to South Sudan. While the border closure must be resolved together with Sudan, there are a number of policies that can be enacted by South Sudan to ensure that inflation does not get further out of control.

First, the government will need to consider addressing the current uncertainties around the country’s exchange rate regime and avoid a sudden collapse of the South Sudanese Pound. It is clear that the fixed official exchange rate regime has failed to stem price inflation, as depreciation of the currency in the parallel foreign exchange market has driven price inflation, because of large share of imported goods and services. Therefore, it is difficult to justify the current dual exchange rate regime on the ground of its beneficial effects on controlling inflation. While a further depreciation of the currency seems possible in the coming months, in view of the reduced foreign currency earnings resulting from the closure of oil production, it will be important to manage any unification or floating of the exchange rate as to minimize its potential effect on inflation. This may entail avoiding an abrupt adjustment, as well as some measures to restrict capital flight.

Second, the government could work with international partners to mitigate the growing food insecurity and poverty effects caused by increased prices and the depreciation of the currency. Even before the shutdown of oil production, FAO and the World Food Program estimated that 4.7 million people will be food insecure during 2012 in South Sudan, of which 1 million severely food insecure. This compares to 3.3 million people in 2011, of which 900,000 were severely food insecure. This suggests that much food need to be imported in the next year. Imported food prices are likely to rise with a weaker currency. Future analytical work undertaken by the World Bank will look more in depth at understanding the exact impact of such price hikes on the poor in South Sudan and what safety nets can be put in place to deal with a more severe crisis.

Third, lowering the country’s internal and external barriers to trade would ensure better supplies of goods throughout the country. In the short run, the government should seek to reduce barriers to internal trade, such as security risk and informal road blocks along main trade routes, which are adding to transport costs and explaining some of the large price differences for staples and fuel within the country. The government should also ensure that the transport industry is competitive and not dominated by oligopolistic behavior. Moreover, the government should also take measures to ensure that imports from neighboring countries are not obstructed by unnecessary border
procedures, as to reduce the large cross-border price differential. In the medium term, the government should work to resolve the border closure with the North which has affected prices in the North with particular severity and invest in better road infrastructure throughout the country.

Fourth, the government will need to consider the effect of rapid government expansion on aggregate demand and how this is affecting price levels. With the rapid expansion of government expenditure and also the private construction sector, and limited import capacity, prices will continue to be driven up. Over the past two years, the government sector, which constitutes more than half of the non-oil economy, has more than doubled its size. South Sudan’s Government consumption per capita (excluding capital expenditure) is more than twice that of its peers.

Fifth, the government will have to be careful not start subsidizing food and fuel directly, as this will be a hugely inefficient way to address the problem of inflation. An extensive body of evidence shows that although politically attractive, food and fuel subsidies are very regressive (i.e. the poor benefit relatively little while the rich receive most of the subsidies), and are costly and difficult to reverse when circumstances change. In dealing with growing political dissatisfaction, the government should rather consider targeted social assistance to vulnerable groups.

Last, the fast increasing prices also highlights the importance of diversifying the economy to being less dependent on oil revenues to fund imports of food. In particular, leveraging the vast potential in South Sudan’s agricultural sector would largely improve food supply, thus contributing to reduced prices and increased food security.

End Notes:

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1 South Sudanese Pounds (SSP) and Sudanese Pounds (SDG) can be treated as a continuous data series as upon introduction of the SDG the currency was traded 1-to-1 with the new SSP.