

# SOUTH SUDAN ECONOMIC UPDATE

2017

## Taming The Tides of High Inflation

Policy Options for South Sudan



THE WORLD BANK  
IBRD • IDA

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized





# Acknowledgements

This edition of the South Sudan Economic Update is a joint Macroeconomics and Fiscal Management - Poverty product. The report was prepared by Nora Dihel (Senior Economist) and Utz Pape (Economist) with input from Facundo Abraham (Consultant), Arti Grover (Senior Economist), Luca Parisotto (Consultant) and Sergio Schmukler (Lead Economist). Zerihun Getachew Kelbore (Research Assistant) provided statistical assistance. Karima Laouali Ladjo (Program Assistant) provided assistance with formatting.

Abebe Adugna (Practice Manager, Macroeconomics and Fiscal Management), Pierella Paci (Practice Manager, Poverty), Sahr Kpundeh (Country Manager, South Sudan) and Carolyn Turk (Country Director, South Sudan) provided overall guidance. The team wishes to thank Michael Geiger (Senior Economist), Kevin Carey (Lead Economist) and Jean-Pierre Chauffour (Lead Economist) as well as peer reviewers Fiona Davies (Advisor, Ministry of Finance and Planning), Praveen Kumar (Lead Economist, World Bank), Elliot Mghenyi (Senior Agriculture Economist, World Bank), Richard Newfarmer (Country Director, Rwanda, South Sudan, and Uganda, International Growth Centre) and Malcolm Smart (Senior Economic Adviser, DFID South Sudan) for their constructive input.

The World Bank team welcomes feedback on the South Sudan Economic Update. Please send comments to Nora Dihel ([ndihel@worldbank.org](mailto:ndihel@worldbank.org)) and Utz Pape ([upape@worldbank.org](mailto:upape@worldbank.org)).

# CONTENTS

Acknowledgements **i**

Contents **ii**

Executive Summary **iv**

## 1

**Economic developments –  
Soaring inflation, poverty and  
food insecurity**  
**page 1**

- 1.1 Background **1**
- 1.2 Recent economic developments **3**
- 1.3 Poverty and livelihoods in a high  
inflation environment **11**
- 1.4 Food insecurity due to conflict and  
high inflation **16**
- 1.5 Perceptions of welfare and performance  
of public institutions **21**
- 1.6 Outlook and risks **24**

References **44**

- Annex 1: Countries with a history of hyperinflation **52**
- Annex 2: Countries following inflation targeting **53**
- Annex 3: Dynamics of ERBS in Latin America **53**
- Annex 4: MBS versus ERBS in Latin America **56**
- Annex 5: Deflation in countries post stabilization programs **59**

## 2

**Special Focus - Taming the  
tides of high inflation: policy  
options for South Sudan**  
**page 26**

- 2.1 Introduction **26**
- 2.2 Exchange-Rate-Based Stabilization  
(ERBS) plans **30**
- 2.3 Money-Based Stabilization (MBS)  
plans **35**
- 2.4 Country experiences **39**
- 2.5 Lessons for South Sudan **43**

Table 1	Macroeconomic outlook - South Sudan	4
Table 2	Annual inflation rates before and after ERBS	54
Table 3	Annual GDP growth rates before and after ERBS	55
Table 4	Annual inflation rates before and after MBS	57
Table 5	Annual GDP growth rates before and after MBS	57
Figure 1	Projections of oil revenues	6
Figure 2	Exchange rate SSP to USD	7
Figure 3	CPI inflation, year-on-year	8
Figure 4	Sectoral expenditure, percentage	9
Figure 5	Urban poverty headcount	12
Figure 6	Urban poverty gap	12
Figure 7	Source of livelihood by poverty status, urban	14
Figure 8	Poverty headcount by source of livelihood, urban	14
Figure 9	Employment by type, urban	15
Figure 10	School attendance children aged 6-13, urban	16
Figure 11	School attendance children aged 14-18, urban	16
Figure 12	Food security outcomes, April 2017	17
Figure 13	Estimated cereal deficit/surplus 2014-2017	18
Figure 14	Changes in cultivated area from 2012/2013 to 2016	18
Figure 15	Consumer Price Index (CPI) of select commodity groups in Juba, South Sudan	19
Figure 16	Hunger incidence over the past 4 weeks, urban	19
Figure 17	Feeling in control over own life, urban	21
Figure 18	Life satisfaction score, urban	21
Figure 19	Perception of economic conditions, urban	22
Figure 20	Perceptions of effectiveness of public institutions, urban	23
Figure 21	Top 5 hyperinflation situations in history	27
Figure 22	Exchange-Rate Stabilization (ERBS) vs Monetary-Based Stabilization (MBS)	29
Box 1	Inflation stabilization plans	ix
Box 2	Monetary policy and exchange rate regimes in post-conflict countries	x
Box 3	Oil revenue forecast and governance	5
Box 4	The High Frequency Survey collects key data in South Sudan	12
Box 5	Hyperinflation experiences	27
Box 6	Advantages and disadvantages of dollarization	31
Box 7	Monetary policy and exchange rate regimes in post-conflict countries	45



# EXECUTIVE SUMMARY

## 1 Economic developments – Soaring inflation, poverty, and food insecurity

**1. The Republic of South Sudan emerged in 2011 from decades of conflict as the world's newest independent country, with huge state and peace building challenges, and extreme institutional and socio-economic deficits.** Six years after independence, South Sudan remains one of the world's most conflict-affected and fragile countries, unable to emerge from cycles of violence. The escalation of the war generated large displacements of population – most notably since November 2016. The famine declared in February 2017 underscores the severity of the humanitarian crisis. By July 2017 about 6 million (about 50 percent of the population) had been food insecure, 1.9 million had been internally displaced, and 2 million had fled the country.

**2. By August 2016, South Sudan displayed all the signs of macroeconomic collapse,**

**with output contracting, and inflation and parallel exchange market premium spiraling.** While the lack of reliable information makes it difficult to assess the current state of the economy, GDP is estimated to have contracted by about 11 percent in FY2016/17 due to conflict, oil production disruptions and below-average agriculture production. On the demand side, exports and household consumption declined, while government consumption increased due to spending on defense and security operations.

**3. The fiscal deficit remained high, although its exact magnitude is difficult to estimate given the lack of real time data.** Based on the 2016/17 budget, the fiscal deficit is estimated at about 14 percent of GDP. The 2016/17 budget allocated about 42 percent of the total domestically financed budget to salaries, 19.5 percent to

operating and capital expenditure, 19 percent to transfers to states and counties, and about 14 percent to peace and security.

**4. The financing situation is dire.** Not only is the government financing itself through accumulated arrears to civil servants - many of whom have not been paid for months and are probably no longer working; moreover, the government has accumulated large contingent liabilities on its balance sheet. Sources of deficit financing have dried up. Deficits associated with the war and security spending are requiring the government to cover its costs by printing money, driving inflation.

**5. Monetization of the fiscal deficit explains to a large extent the high inflation,** although there are some indications that borrowing from the Bank of South Sudan had been limited in recent months. The annual Consumer Price Index (CPI) increased by 480 percent in 2016 and by 155 percent during July 2016-June 2017, according to the latest official statistics. Notwithstanding the recent downward trend, the very high inflation continues to put many households in both urban and rural areas in a very difficult position, as they are unable to afford the minimum food basket.

**6. The current account deficit is estimated to have narrowed to about 1.6 percent in FY2016/17 from about 6.1 percent of GDP in FY2015/16.** Export revenues decreased due to declining oil

prices and lower oil production. Oil production is estimated to have decreased to about 120,000 barrels per day in 2016 down from 165,000 barrels per day in 2014, itself less than half of the peak production before independence in 2011. However, imports also decreased by more than exports, narrowing the current account deficit.

**7. The South Sudanese Pound (SSP) continued to depreciate.** Following the move to a more flexible exchange rate arrangement in 2015, the South Sudanese Pound (SSP) depreciated on both the official and the parallel market. On the parallel market, it depreciated from SSP 18.5 per dollar in December 2015 to SSP 70 per dollar by August, 2016 and SSP 172 per dollar by August 2017. Political events drove the volatility of the SSP: the pound initially appreciated on the parallel market when the Government of National Unity came into place, but it later depreciated steadily, in particular after the new fighting erupted in July 2016. It has continued to depreciate steady since as instability across the country continues.

8. Restoring peace, including reform of the security sector, followed by efforts to rein in public sector borrowing to levels that avoid printing money are necessary preconditions for any stabilization program. The only way to halt the economic devastation is to put in place a consistent and credible macroeconomic program, with transparent administration and external support both for financing and credibility purposes.

The 2016/17 budget allocated about...

**42%**

salaries

**19.5%**

operating & capital expenditure

**19%**

states & counties

**14%**

peace & security



**9. The FY17/18 National Budget aims to restore macroeconomic stability, but lacks credibility.**

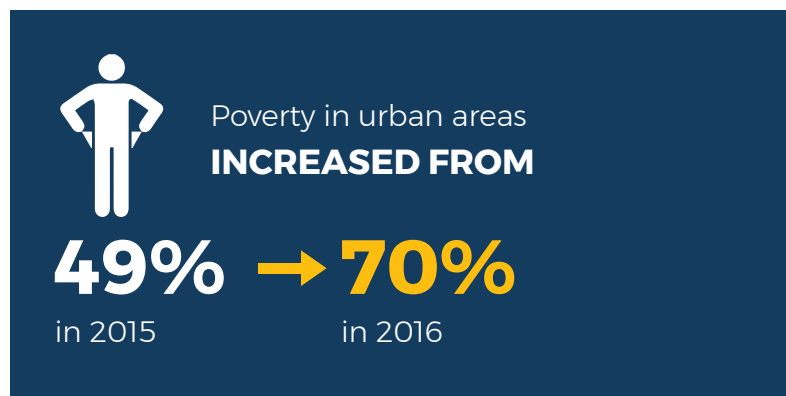
It puts special emphasis on controlling public expenditure, increasing non-oil revenues, encouraging investment and economic diversification and removing subsidies to the national oil company (Nilepet). The Budget also aims at refraining from borrowing from the Bank of South Sudan to bring down inflation and prevent further depreciation of the currency. Although the FY17/18 Budget foresees a two-fifth cut in expenditure in dollar terms compared to the 2016/17 budget, it is unlikely that enough cash will be available to execute all budgeted items. While it is difficult to predict the prioritization of expenditures, it is likely that the government will continue to protect security spending and core executive functions. Thus, the population will become even more dependent on humanitarian relief and donor funded development projects for access to services. Even if the economy showed some recovery starting in 2018, projections suggest that poverty will continue to rise through 2019 as economic growth is likely to be surpassed by population growth.

***Poverty, food insecurity, and perceptions in a high inflation environment***

**10. Poverty in urban areas of South Sudan increased from 49 percent in 2015 to 70 percent in 2016.**

The macroeconomic collapse, high inflation and increasing food prices have led to a sharp increase in urban poverty between 2015 and 2016. The urban poverty gap increased from 22 to 36 percent between 2015 to 2016, meaning that the average poor urban household went from consuming 22 percent less than the international poverty line to 36 percent less in 2016. Inequality amongst the poor also worsened, and the poverty severity index doubled from 0.10 in 2015 to 0.20 in 2016.

**11. The large loss of wages' purchasing power drove many households relying on salaried**



**work or on their own business enterprise into poverty.**

Although households supported primarily by wage earners remain amongst the richest groups in South Sudan's population, the decline in purchasing power caused many of these households to fall into poverty. Poverty amongst wage earning households more than doubled from 28 percent in 2015 to 62 percent in 2016, a stark increase relative to most other households.

**12. Economic instability led many of the working age to drop out of the labor force.**

The urban labor force participation rate in urban South Sudan dropped from one half to one third between 2015 and 2016 (50 percent to 33 percent respectively). The particularly volatile economic, political and security conditions may be responsible for this low active labor force participation.

**13. South Sudan's unprecedented level of food insecurity is the most alarming signal of the country's larger economic collapse.**

Despite the agricultural potential, the rural population has been continuously affected by food insecurity in the last few years. As of February 2015, 2.5 million people, or about one fifth of the population, were in either "Crisis" or "Emergency" levels of food insecurity, more than double the number recorded in December 2013, when the fighting broke out. A further 3.9 million people are in a state of food security stress, and likely to slip further down the rankings should livelihood support, security, and markets fail. Predicted changes in



climate, both in terms of more intense rainy seasons as well as hotter and dryer dry seasons, could heighten future food insecurity nationally. Heightened tensions and renewed clashes across the country following the July 2016 conflict have further aggravated already overwhelming needs. Nearly 3.6 million people were estimated to be severely food insecure between October and December 2016, the highest levels experienced in South Sudan at harvest time. In both rural and urban areas, the food insecure population has at least doubled compared to the same time last year.

**14. Hunger for the poorest households increased sharply between 2015 and 2016.** The likelihood of experiencing hunger 'often' (more than 10 times per month) increased from 2 percent to 13 percent for the poorest quintile of households, while the incidence of experiencing hunger 'often' or 'sometimes' (3 to 10 times per month) increased from 26 to 44 percent for the second poorest expenditure quintile. While richer households may be able to respond to a rise in food prices by adjusting their diets towards more staple and less expensive foods, the poorest households' diet may already be consisting primarily of such foods, and as prices increase they are unable to afford even basic sustenance. In 2016, households in the poorest quintile were more than ten times more likely than households in the top four quintiles to have experienced hunger 'often' in the past month (15 vs. about 1 percent respectively).

**15. Many households perceived that economic conditions would continue to deteriorate.** In 2015, about two thirds of the South Sudanese residing in urban areas felt that economic conditions in their country were bad or very bad; in 2016 this figure increased to almost 9 in 10. The people of South Sudan are not optimistic about the future. In 2016 more than 3 in 4 stated that in 3 months' time the economic situation will be worse or much worse, with a notable 47 percent of households believing the latter. This pessimism with regards to the future of economic conditions in South Sudan increased between 2015 and 2016, and the share of households believing that conditions in three months will be worse increased from 38 in 2015 to 65 percent in 2016.

**16. Economic and political volatility negatively affected households' perceptions of the Government's and other public institutions' performance.** Households in urban areas do not think that the Central Government and other domestic public institutions are effective in improving the living conditions and life of the people of South Sudan. The Central Government of South Sudan in particular is consistently perceived amongst the least effective of these institutions. Households' perception was already in low in 2015, with half of all households believing that the Central Government is ineffective or very ineffective in improving the daily life of its constituency. In 2016 almost 3 in 4 households

**47%**



of households believe that in 3 months the economic situation will be much worse

held a negative view of the Central Governments' effectiveness situation up from 50 percent in 2015.

**17. While awaiting the government's commitment to a political settlement and macroeconomic reforms, the population will likely be forced to engage in creative survival and coping strategies.**

There is a risk that South Sudanese citizens are already engaged or will be forced to participate in informal and often illegal activities. However, the majority of the population in rural areas will continue to rely on subsistence agriculture, facing dire conditions. There is little evidence that remittances from diaspora have a significant role in

coping with high inflation in South Sudan. Rather, it is expected that the number of refugees will increase, putting additional pressure on receiving neighboring countries.

**18. Top priorities for the Government are to restore peace and security, and implement urgent macroeconomic measures to reduce high inflation.**

If the macro-economic imbalances are not managed in an effective and timely manner, poverty could rise even further. In the absence of reforms South Sudan will spiral further towards being a failed state.

## 2 Taming the tides of high inflation: policy options for South Sudan

**19. A key policy priority for South Sudan is to curb inflation.**

What can the country do in this regard? Countries have historically tamed extreme inflationary situations using Exchange-Rate-Based Stabilization (ERBS) plans or Money-Based Stabilization (MBS) plans (see Box 1). Monetary or inflation targeting has been popularly adopted by many central banks around the world as a strategy for monetary policy with the expectation that the adoption of such a monetary regime would help control money supply and reduce inflation and inflation volatility. Alternatively, an exchange rate anchor, in combination with a broader set of stabilization programs that combine fiscal prudence with a tighter monetary regime of varying forms may be another option to control inflation.

**20. Political will is critical to pursue any stabilization plan.**

Peace and security remain a crucial precondition for any macro stabilization. Moreover, any reform plan requires credible commitment to take concrete steps to address the economic issues. Effective programs have sequenced the initial stabilization programs with structural and institutional reforms. The latest economic and security developments in South Sudan seem to indicate that despite the urgent need for fiscal consolidation and exchange rate adjustment, the Government continues to focus on conflict-related policy choices that delay any meaningful reforms. Without clear political commitment, any stabilization plan will be meaningless.



The Government continues to focus on conflict-related policy choices that delay any meaningful reforms

**All stabilization plans need a nominal anchor to lower inflation and they differ among each other depending on which nominal anchor is used.** Nominal anchors play a fundamental role in successful stabilization plans. First, setting a predetermined path for the exchange rate or the amount of money helps pin down prices and controls inflation expectations. Second, a nominal anchor limits political pressures to pursue expansionary monetary policies that could fuel inflation. Third, nominal anchors send a strong signal to the market that the policy regime has shifted and the government is credibly committed to fighting inflation.

**Experiences with stabilization plans suggest that they vary in their speed at which inflation is reduced, the business cycle they create, and their sustainability over time.** When choosing a stabilization plan, policymakers are confronted with trade-offs regarding “speed vs. sustainability” and likely “recession now vs. recession later.” On the one hand, ERBS is very successful at reducing inflation quickly, even in countries where inflation is exceptionally high. In addition, immediately after its implementation it creates an economic boom. However, over time the economic expansion is followed by a recession. The economic downturn, which might include a financial crisis, can trigger the collapse of the stabilization plan and the reemergence of inflation. As a result, ERBS is relatively short-lived, sometimes only being in place for four or five years before it is abandoned. On the other hand, MBS decreases inflation but only gradually while initially creating a contraction of economic activity. However, once this downturn is passed, economic growth returns and inflation continues to slow down. As a result, MBSs are more sustainable over time.

**A common feature of ERBS and MBS is that both require a strong institutional framework to be implemented successfully.** Whether the central bank is targeting the exchange rate, the growth rate of money, or the inflation rate, the monetary authority needs to send clear signals to the public that its main goal is to comply with the target. This includes, among others, that the central bank is independent, has a legal mandate to control inflation, is free from political pressures, and has adequate disclosure standards. If the public does not believe that the central bank is committed to fighting inflation, the stabilization plan will unlikely succeed. Another important precondition for the successful adoption of ERBS and MBS is fiscal discipline. A country that implements a stabilization plan but fails to control fiscal deficits is more prone to pursuing an expansionary monetary policy. For countries under an ERBS, expansionary monetary policies would sooner or later lead to a fall in reserves that could force the central bank to abandon the peg. Likewise, in countries under an MSB, an increase in the money supply beyond the target would undermine the credibility of the central bank. In both cases, this will weaken the main pillar of the stabilization plan: the nominal anchor supposed to endure in the long term.



## 21. Which stabilization path for South Sudan?

Although there is a clear agreement that South Sudan needs to reform, vested interests and rent seeking behavior from the politically connected who have access to foreign currency at the official rate are preventing or delaying the reform process. There is also a lack of agreement on the specifics of the reform to support lower inflation. For example, it is not clear whether the country would be most suited to adopt a currency board approach or a full dollarization or continue with a floating regime. Finally, reforming the monetary regime involves a major change in the economic environment, and a major shock for the economy. The uncertainty surrounding the impact may add to the reluctance of the reform process.

## 22. The main challenge for developing economies, particularly for countries emerging

**from conflict, is to establish credibility of the chosen monetary regime through a nominal anchor.** The empirical evidence is not conclusive on whether this can be done more successfully through inflation targeting or a hard currency peg or a crawling peg with a narrow band. Monetary policy becomes more effective when the central banks are successful in leading inflation expectations and can credibly alleviate the traditional short-term trade-off between inflation and unemployment. The success of any monetary regime is directly associated with forward-looking behavior, which, in turn, highlights the relevance of credibility. This aspect is particularly relevant for developing and post-conflict economies (see Box 2). A strong and credible commitment to maintaining low inflation through any monetary regime credibility thus fosters an environment that stimulates output growth.

### Box 2

#### Monetary policy and exchange rate regimes in post-conflict countries

Does the choice of exchange rate regime matter for aid effectiveness in restoring macroeconomic stability?

Based on the experience of 38 countries emerging from war and conflict, Elbadawi and Soto (2013) suggest that post-conflict performances of the fixed and managed regimes were very similar, and were superior to that of a floating regime. While inflation was in single digits under the fixed and the managed floating regimes, it was more than 16 percent under the floating regime.

More in-depth empirical analysis confirms that in post-conflict economies, both the fixed and managed regimes have direct stabilizing effects on inflation. Aid does not seem to have a direct effect on post-conflict inflation under the fixed and managed regimes, while it was found to have a stabilizing impact under the floating regime.

Therefore, it seems that the free-floating exchange regime may not be appropriate for countries emerging from wars and conflict situations. The managed floating regime seems to have an edge on two critical areas of economic performance: (i) aid promotes post-conflict demand for money balances and (ii) the monetary reconstruction role of aid is likely to be more effective under this exchange rate regime.

Source: Elbadawi and Soto (2013)

**23. Under South Sudan's current managed floating exchange rate regime, a monetary policy regime (without an exchange rate anchor) would require an explicit and clearly understood alternative nominal anchor.**

Theoretically, the country could initially implement a plan based on targeting the growth rate of money and then, over time, transition to inflation targeting. Compared to inflation targeting, using the growth rate of money as the nominal anchor can be implemented by a central bank with relatively less independence. Targeting the growth rate of money imposes some limits to the discretionary actions of the central bank because it requires this institution to follow a specific rule. The public can easily observe the compliance of this rule so any deviation would result in an increase in inflation expectations and the collapse of the plan. This suggested path was followed by some countries in Latin America, such as Mexico or Peru, which started targeting the rate of money growth and after a few years moved to inflation targeting.

**24. If South Sudan decided to adopt MBS, it would need to ensure that the exchange rate regime is compatible with macroeconomic fundamentals and closes the gap between the official and the parallel rate.**



*The first challenge would be to deepen the foreign exchange market to make it more liquid for an adequate determination of the exchange rate.* The challenge for the Bank of South Sudan (BSS) will be to supply the market without signaling an intention to defend a particular exchange rate level to maintain commitment to floating exchange rate. By limiting its participation to frequent or periodic interventions (daily or weekly) using transparent and market allocation mechanism such as auctions, the BSS could promote the development of the forex

market. While an auction mechanism is already in place, challenges to determine the exchange rate remain.



*The second challenge would be to build an adequate system to monitor public and private sector exchange rate risk.* Since July 2015, the commercial banks' balance sheets are showing negative net foreign assets. With the 500 percent depreciation of the SSP in December 2015, the net foreign liabilities (negative net foreign assets) of the commercial banks has increased to more than four times their capital, representing a rather high exchange rate risk exposure. The BSS would need to enforce prudential requirements to safeguard the integrity of the banking system.



*The third challenge for the government would be to identify appropriate intervention measures in the foreign exchange market to ensure stability.* International experience shows that central banks could intervene in the exchange market when they detect exchange rate misalignment or judge volatility destabilizing. These interventions could be on a discretionary basis or regular, preannounced, and rule-based to support the information flow to the market and reduce noise. In the case of South Sudan, it seems that BSS will continue to supply the forex market with foreign currency because of its role as banker to a government that receives revenues from oil, borrows from abroad and receives grants in foreign currency. The government has issued new guidelines for the implementation of the regulation on floating exchange rate regime instituting an auction mechanism that is in line with international standards. However, given the low level of foreign reserves, the government

should be very selective in its interventions to build its credibility and promote market confidence.



*The fourth challenge would be to find an alternative nominal anchor for its monetary policy.* Despite the weak relationship between monetary aggregates and inflation, money targeting can serve as an alternative nominal anchor for monetary policy. Many countries shifting from a fixed to flexible exchange rate regimes have favored an inflation targeting framework over money targeting. Many of them adopted inflation targeting over long time horizons, taking the time required to fulfill the institutional requirements and macroeconomic conditions. It is too early for South Sudan to adopt inflation targeting, given the weakness of the financial sector and the low government capacity. Monetary targeting combined with tight coordination with fiscal policy would be a more appropriated framework. Reducing the central bank financing of the fiscal deficit should be an intermediary target of the monetary policy, and more appropriated than direct price administration.

**25. Considering the limited institutional capacity, the lack of independence of its central bank and significant credibility problems in recent history, it is highly unlikely that South Sudan has the capacity to follow an MBS.** Credibility issues associated high inflation, governance problems at the central bank, and fiscal dominance, as well as a low level of financial development and significant weaknesses in statistical databases (both precluding reliable monitoring and forecasting of macroeconomic indicators) make MBS an unlikely choice at this stage.

### ***Exchange-Rate-Based Stabilization (ERBS) plans***

#### **26. Another option would be to follow an ERBS.**

Given the high inflation in South Sudan and the lack of credibility of monetary policy, inflation could be tamed through a hard peg of South Sudanese dollar. The disadvantage of hard pegs is the loss of an autonomous monetary policy, but at the current state of institutional development in South Sudan such autonomy might not be beneficial. The key decision to make in this case is to identify the anchor currency. IMF (2010) suggests that this choice should be contingent on whether the anchor-currency country meets the criteria for an optimal currency area: (i) higher trade; (ii) symmetric shocks; (iii) higher labor mobility; and (iv) higher fiscal transfers within the region.

#### **27. If South Sudan decided to pursue the ERBS path, full dollarization may be an option.**

Dollarization may indeed be a stronger arrangement than a currency board, as it eliminates the risk of future currency crises and reduces the costs of international transactions. Credibility of dollarization can be boosted by political backing of the country whose currency is adopted and with an agreement on seigniorage sharing. A currency board could, in principle, impose a much stricter discipline on the monetary authority than dollarization, but given the history of governance problems with the Bank of South Sudan and the failure of an earlier fixed exchange rate regime, establishing the credibility of a currency board arrangement without externally imposed safeguards could be difficult. Further, more time might be needed to garner political support for adopting a central bank and fiscal responsibility legislation consistent with international best practice. Also, ERBSs are typically short-lived because they are prone to runs on the currency and to real



exchange rate appreciations that are corrected by devaluations. By eliminating the domestic currency, dollarization eliminates currency crises and increases exit costs. As a result, dollarization can be sustained over a longer period of time.

**28. Dollarization might help improve some of the macroeconomic weaknesses present in South Sudan.**

Dollarization could eliminate the possibility to finance the fiscal deficits by printing money and, thus, could promote fiscal discipline. Moreover, the halt to discretionary monetary policy could help lower inflation expectations. In addition, the elimination of exchange rate risk might increase capital inflows, which could improve the external balance. An additional and important consideration is that dollarization is not irreversible and the government of South Sudan could decide to introduce a domestic currency and move toward an MBS if it desired. In practice, hard pegs, including dollarization, have proven to be easier to abandon than originally believed by, for example, issuing quasi-monies or official money accepted for tax collection (de la Torre et al., 2003). The experience of dollarization in Ecuador described in the previous section could be relevant for South Sudan.

**29. Upon stabilization, South Sudan would need to implement structural and fiscal reforms to enhance efficiency and to prevent recurrence.**

Once the high inflation situation stabilizes, South Sudan should prepare to implement a broader set of structural and fiscal reforms along with price and exchange rate liberalization to prevent recurrence.<sup>1</sup> To unlock affordable credit lines from international capital markets, South Sudan needs to manage its public debt, improve export competitiveness and also offset the negative repercussions of the appreciation of the currency of the country from where it sources its imports against the US dollar. Attracting both debt and non-debt creating capital flows, notably foreign direct investment, would require supportive measures such as the alignment of the country's investment laws and procedures to international best practices, investor-friendly policies, better enforcement of rule of law and the respect of property rights. The government should also strive to improve its relations with the international community to deal with negative perceptions that have tended to increase the country's risk, making borrowing from offshore sources very expensive, even for private sector entities.

# Which stabilization path for South Sudan? Exchange-Rate-Based Stabilization or Money-Based Stabilization?

<sup>1</sup> The importance of structural reforms cannot be overemphasized even countries that do not have their own currency. For example, in crisis in Greece was fueled by the lack of supportive policies to keep the budget deficit under control, which undermined confidence in the country's ability to remain within the European Monetary Union.



# 1

## Economic developments – Soaring inflation, poverty and food insecurity

### 1.1 Background

**1. The Republic of South Sudan emerged in 2011 from decades of conflict as the world's newest independent country, with huge state and peace building challenges, and extreme institutional and socio-economic deficits.** South Sudan became independent on July 9, 2011 after a six-year transitional period that followed the signing of the 2005 Comprehensive Peace Agreement (CPA). The CPA ended decades of war between the Government of Sudan and the Sudan People's Liberation Movement/Army (SPLM/A). The SPLM/A formed the Government of the new country, based on the results of elections held in 2010. South Sudan joined the World Bank Group in April 2012 (World Bank, 2015).

**2. Six years after independence, South Sudan remains one of the world's most conflict-**

**affected and fragile countries, unable to emerge from cycles of violence.** The narrow elite capture of the state created by the 2011 political settlement, the legacy of several decades of conflict that help legitimize violence, the intercommunal violence, rebel movements and local militia represent significant threats to peace and stability in South Sudan. Its conflict with Sudan over border issues and the outbreaks of internal violence in December 2013 and July 2016 that morphed into interethnic conflict suggest that South Sudan is trapped in a cycle of violence. Since 2013, combatants officially committed to peace on at least 11 occasions, only to violate their commitments almost immediately. Despite the signing of the peace agreement in August 2015, SPLM/A in Government, SPLM/A in Opposition and other armed groups undertook

military operations, including targeting of civilians, throughout 2016 and 2017 with dire consequences for the population. The escalation of the war generated large displacements of population – most notably since November 2016. The famine declared in February 2017 underscores the severity of the humanitarian crisis.

**3. At independence, the new government inherited a country with favorable macroeconomic conditions.** Almost three quarters of the oil production of pre-independence Sudan, 55 percent of its fiscal revenues, and about two-thirds of its foreign exchange earnings, belonged to South Sudan. In 2011, both fiscal and current account balances displayed surpluses of respectively 3.7 percent and 9.5 percent of Gross Domestic Product (GDP). The stock of outstanding external debt was below 7 percent of GDP since no apportionment of Sudan's unsustainable burden took place, and all the major donors were ready to support the country's development agenda. While poverty was high with 47 percent at independence, it was on a downward trajectory from 51 percent in 2009.

**4. The cumulative effects of repeated policy mistakes, the escalation of violence since December 2013, and inadequate response to external shocks, including the declining oil prices, have jeopardized the country's macroeconomic framework.** The heavy dependence on oil led to a growth collapse (over 45 percent GDP contraction) in 2012 following the dispute between South Sudan and Sudan and the subsequent oil shutdown, with exports, imports, investment and household consumption decreasing sharply. Macroeconomic stability has been compromised following each episode of conflict escalation. Lower oil production, loss of assets and livelihood opportunities, and destruction of market infrastructure have contributed to further GDP contractions starting 2014. Declining oil production and prices have put additional pressure on the economy already weakened by the oil shutdown and the ongoing

civil war. As a response, the Government tried to cut spending but with its limited room to maneuver, the fiscal deficit more than tripled to reach 12 percent of GDP in FY14/15, up from 3.7 percent in FY13/14, financed mainly by the Bank of South Sudan (BSS).

**5. A dual exchange rate has fueled rent-seeking behavior and introduced economic distortions.**

South Sudan has maintained an exchange rate peg to the dollar since the early months after independence. However, stabilizing the foreign exchange market at the peg has been very difficult as this requires a large level of foreign reserves but reserves have dramatically declined due to disruptions in oil production and low prices exacerbated by a disadvantageous transit arrangement with Sudan. The financing of the widening current account deficit has been difficult and the pressure on international reserves increased significantly pushing the Government to implement currency restrictions. As a result, economic agents shifted demand to the parallel exchange market, driving the unofficial rate to more than 18 South Sudanese Pound (SSP) per dollar by end November 2015, against an official rate at 2.95 SSP per dollar, yielding a market premium of more than 500 percent that favored a hidden transfer of resources from the government to vested interests who received dollar allocations at the overvalued official rate.

**6. The Government of South Sudan abandoned the fixed exchange rate arrangement and adopted a floating exchange rate regime in December 2015.**

The decision was expected to help reduce the country's huge macroeconomic imbalances and create the conditions to build a stable macroeconomic framework. Although the fiscal situation improved after the floating of the exchange rate, the positive effects of the devaluation were eaten up by further declining international oil prices. Non-oil revenues were absorbed by government agencies overspending on operating budget lines, while the transfers



to Sudan were paid in dollars. Fiscal space was further reduced by security spending and a massive civil servant pay increase. The currency reflected expectations of continued monetary financing of the deficit. The SSP continued to depreciate on the parallel market from SSP 18.5 per dollar to SSP 70 by dollar by end August 2016 and SSP 172 by August 2017.

**7. Increasing inflation.** Consistent with exchange rate changes, we observe an increase in annual Consumer Price Index (CPI) from 1.7 percent in 2014 to about 30 percent in 2015 and 480 percent in 2016. The increases were mainly driven by high

price in food and non-alcoholic beverages.

**8. The renewed threat of violence and instability are likely to aggravate the situation.** In a context of violence and widespread conflict, it is unlikely that the macroeconomic woes of the South Sudanese will be remedied anytime soon. Instability is contributing to the limited supply of foreign exchange by deterring foreign investors and traders from contributing to the South Sudanese economy. The conflict has also impacted aid work, and is likely to reduce the livelihoods of the poorest and of those displaced by the conflict, who may need to rely on humanitarian relief.

## 1.2 Recent economic developments

### Growth

**9. By August 2016 South Sudan displayed all the signs of macroeconomic collapse, with output contracting, completely depleted fiscal and external buffers inherited at independence, risk of hyperinflation and parallel exchange market premium spiraling.** The economy is estimated to have contracted by 11 percent in FY2016/17 due to conflict, oil production and agriculture disruptions, reversing the trend of poverty reduction reaching a poverty headcount rate of 66 percent.<sup>2</sup> The economy is expected to contract further by about 11.2 percent in FY2016/17 with both the oil and the non-oil sectors expected to decrease.<sup>3</sup> On the demand side, exports and household consumption are expected to decline, while government consumption is projected to increase due to spending on defense and security (Table 1).

**10. Declining oil production and prices have put additional pressure on the economy already weakened by the 2012 oil export shutdown (linked to a dispute with Sudan about transit fees) and the civil war.** Oil production decreased to about 120,000 barrels per day in FY16/17 down from around 140,000 barrels per day in FY2015/16, 165,000 barrels per day in 2014 and a peak of 350,000 barrels per day before independence in 2011, while oil prices declined from US\$96 in 2014 to US\$ 43 in 2016 and US\$ 55 in 2017. Despite a slight increase in 2017, oil prices continue to mute the exchange rate reform initiated in December 2015 as the increase in the SSP value of oil revenues is eaten up by the drastic decrease in the USD value of oil revenues.

<sup>2</sup> South Sudan High Frequency Survey Wave 1 restricted to 6 states (Greater Equatoria and Greater Bahr El Ghazal).

<sup>3</sup> The magnitude of the contraction needs to be considered with care given lack of reliable information on the current state of economy.

Table 1

## Macroeconomic outlook - South Sudan

	2012	2013	2014	2015e	2016e	2017f	2018f	2019f
GDP, at constant market prices	-46.1	13.1	34	-10.8	-11.2	-6.6	0.4	2.1
Private Consumption	4.5	4.2	-6.5	-25.3	-15.8	-14.4	-2.0	0.7
Government Consumption	-6.8	10.9	13.0	0.4	3.0	3.0	4.0	4.0
Gross Fixed Capital Investment	-53.2	17.6	-2.5	0.0	0.0	3.0	4.0	5.0
Change in Inventories, % contrib	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exports, Goods and Services	-91.9	99.5	52.8	-40.0	-44.0	-20.0	0.0	5.0
Imports, Goods and Services	-35.3	10.7	5.1	-41.0	-17.0	-10.0	3.2	5.1
GDP, at constant factor prices	-46.1	13.1	34	-10.8	-11.2	-6.6	0.4	2.1
Agriculture	8.4	15.5	5.0	2.5	-15.0	-10.0	-5.0	0.0
Manufacturing	-81.2	45.7	26.9	-23.3	-20.5	-5.9	1.1	3.0
Services	4.8	18.2	-6.2	-6.1	-6.1	-6.1	0.0	2.0
Inflation (Consumer Price Index)	45.1	0.0	1.7	153.0	410.0	na	na	na
Current Account Balance,% of GDP	-20.6	8.7	-4.8	-6.1	-5.0	3.1	-11.5	0.0
Fiscal Balance, % of GDP	-16.3	-3.3	-12.0	-12.9	-14.2	-13.8	-10.7	-12.5
Poverty rate (\$1.90 a day, PPP terms)	50.1	..	55.1	65.6				
Poverty rate (\$3.10 a day, PPP terms)	71.0	..	74.6	85.8				

Notes: e = estimate, f = forecast.

Source: World Bank Macro Poverty Projections 2017

**11. Sizeable payments from South Sudan to Sudan as part of the Transitional Financial Arrangement (TFA) are further diminishing oil revenues.** The TFA is based on South Sudanese oil volumes flowing through Sudan for export through Port Sudan, and covers a transit fee of US\$9.5 that is added to a rate of US\$ 15 per barrel. As a result, oil revenues had fallen from 23 % of GDP in FY13/14 to 14.6 % of GDP in FY14/15 and are estimated to have dropped to 11.4% of GDP in FY15/16. With lower TFA payments South Sudan

could potentially increase its current receipts from oil production, but the range depends much on the magnitude of the actual renegotiation. Even if South Sudan manages to negotiate better terms for the TFA payments, there remain concerns about security and the durability of the peace agreement. Furthermore, additional measures to address production recovery, transport and infrastructure barriers and the poor local management are required for the revitalization of the oil sector (Box 2).

## Policy mistakes and violence jeopardize the macroeconomic framework

**South Sudan's legal frameworks for oil and gas management are either poorly implemented or partially absent.** The absence of a permanent constitution leads to uncertainty with respect to the legal framework related to the oil and gas sector. Currently, the management of petroleum and gas is based on two legal frameworks. The National Petroleum Act (PA) of the Republic of South Sudan (RSS) governs the management of petroleum resources while the Petroleum Revenue Management Act (PRMA) governs the allocation and accounting for the proceeds of the government's share of production. Although the frameworks exist, their implementation is very limited. Furthermore, the downstream sector (refining, exporting and product pricing) is currently not regulated.

**Petroleum revenue management is insufficiently monitored.** The last national and publicly released audit was conducted for 2008 raising major concerns for accounting and documentation of transactions. The National Audit Chamber would benefit from appropriate funding and staffing so that audits of the national accounts can be brought up to date and extended to the state and local levels. Additional gaps could be reduced by establishing regulatory certainty by regulations, formal processes for budget interactions with the operators, a recoverable cost audit, improved and better resourced internal and external audit function as well as establishing the Public Accounts Committee.

**The RSS can induce oil operators to continue production at low oil prices by allowing larger recovery of costs.** Once oil production becomes unprofitable in the medium-term, operators are likely to terminate their contracts. An oil price of at least US\$83/bbl is required to keep production in all blocks going. The minimum oil price required drops by 20 percent if the operators are allowed to recover 100 percent of costs. Oil production becomes unprofitable for all blocks at an oil price below US\$38.2/bbl even if Government allows 100 percent cost recovery and relinquishes its share in revenues. Thus, an oil price permanently below this will likely lead to a stop of production.

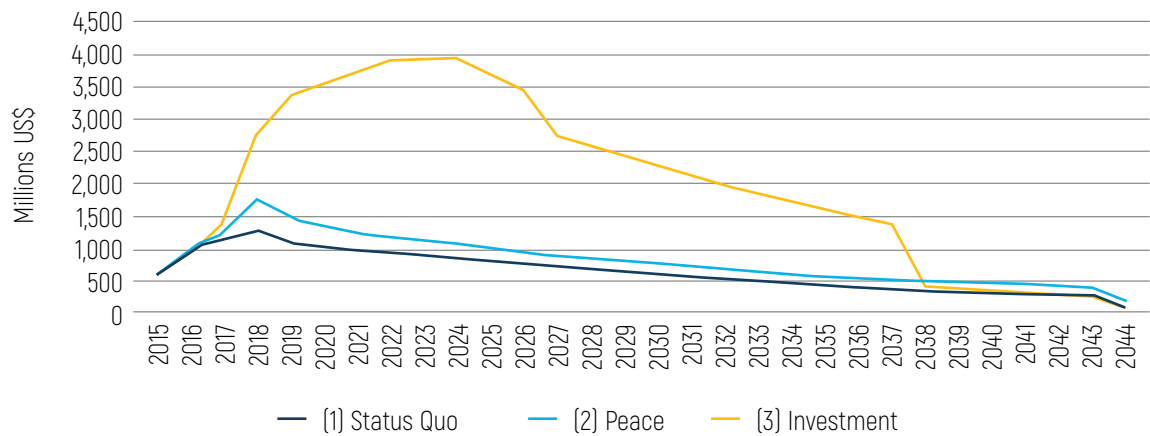
**Large-scale investment in investment in Enhanced Oil Recovery (EOR) can substantially increase oil revenues for the Government.** A resumption of production in all blocks would generate 18 percent higher Government oil revenues over the remaining lifetime of the oil fields compared to current production (Scenario "Peace" in Figure 1). Additional investment into EOR and the construction of a 350 km pipeline to remove restrictions on current production due to export limitations would provide 142 percent additional revenues (Scenario "Investment" in Figure 1). Thus, an investment into EOR and the pipeline – if enabled by security as well as regulatory and contractual certainty – can substantially increase oil revenues for the next decades. At this stage, however, such a scenario remains highly unlikely.

<sup>4</sup> South Sudan Inclusive Growth Economic Memorandum Background Paper: South Sudan Petroleum Sector – Revenue Forecast and Governance, World Bank (2017).



Figure 1

Projections of oil revenues



Source: Republic of South Sudan Inclusive Growth Country Economic Memorandum, World Bank (2017).

**The RSS can help attract needed investment by providing security, regulatory certainty and overcoming the monopolistic export infrastructure.** Investors need to be confident that the state can provide the necessary security for the private sector to work in the contract area without disruption. Furthermore, investors still face risks arising from changes in regulatory and legal framework. The risk could be reduced by implementing a permanent constitution and the ratification of existing laws governing the sector. Another disincentive to investment is that the only export infrastructure available is under a monopolist control. In addition to moderately high oil prices, discoveries must be large enough to justify construction of alternative export routes. The international community could support the necessary studies to establish the costs of an alternate pipeline route. This would likely establish some negotiating boundaries for the parties and potentially lead to a long-term agreement to provide the certainty for investment in the petroleum sector in the RSS.

**A reform in the oil sector should be accompanied by a transparent use of funds to benefit the people of South Sudan.** Even if the contracts are extended and investments are made, it will be difficult to ensure that oil revenues are consistently used for the “benefit of the people of South Sudan” as the Transitional Constitution requires. The RSS could create a social protection program using oil funds to make periodic payments to specific categories of vulnerable citizens. However, for the public to be able to participate in the discussion related to the use of resource revenues, they would also need to have access to information regarding the amount of revenues received and their current distribution. A transparent, fair and public use of funds would add to the credibility of the Government and, thus, could contribute to stability and peace in South Sudan.

Source: Republic of South Sudan Inclusive Growth Country Economic Memorandum, World Bank (2017).

## Exchange rate and inflation

### 12. Devaluation and the move toward managed float of its currency in December 2015 only partially remedied South Sudan's economic problems.

In the short-run, the decision was expected to improve the country's fiscal and external positions, by increasing oil revenues and aid inflows in local currency and reducing imports. However, devaluation alone has not resolved the fiscal situation as some of the positive effects of devaluation were diminished by further declining international oil prices that are putting significant pressure on the exchange rate (which is feeding into domestic prices) and contributing to widening the fiscal deficit.

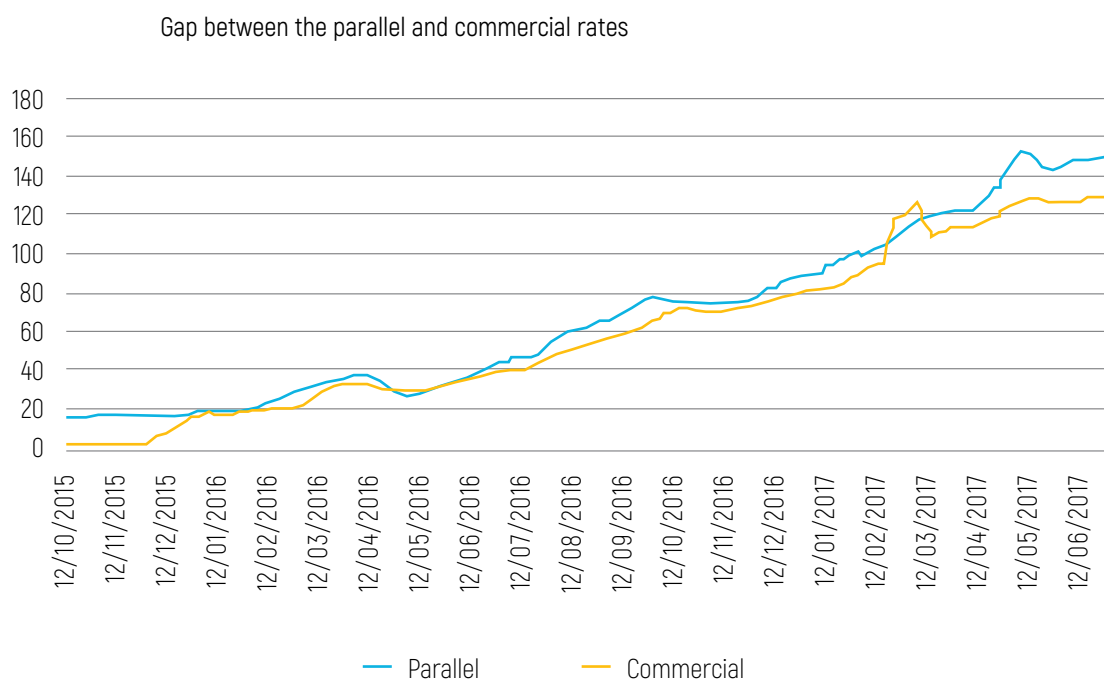
### 13. The South Sudanese Pound (SSP) is continuing its depreciation.

The SSP depreciated from SSP18.5 per dollar in December 2015 (following the move to a managed floating exchange rate from a fixed

exchange rate arrangement) to SSP 70 per dollar by end August, 2016 and SSP 150 by mid-May 2017 (Figure 2). Political events drove the volatility of the SSP: the pound initially appreciated on the parallel market and converged with the commercial rate when the Government of National Unity came into place, but it later depreciated steadily, in particular after the new fighting erupted in July 2016. It has continued to depreciate steadily since as instability across the country continues. Following a temporary convergence of the two rates in March 2017, the spread between the official and the parallel market rates has widened again by May 2017 with an increasing gap. The divergence between the two rates reflects that demand for hard currency continues to outweigh the limited supply of foreign exchange given unresolved fiscal and monetary issues as well as challenges in the interbank market for foreign exchange.

Figure 2

Exchange rate SSP to USD



Source: World Bank High Frequency Survey<sup>5</sup>

<sup>5</sup> <http://www.thepulseofsouthsudan.com/data/>

**14. Evidence from other African countries suggests that a unification of the official and parallel markets by exchange rate policy cannot succeed without fiscal discipline.**

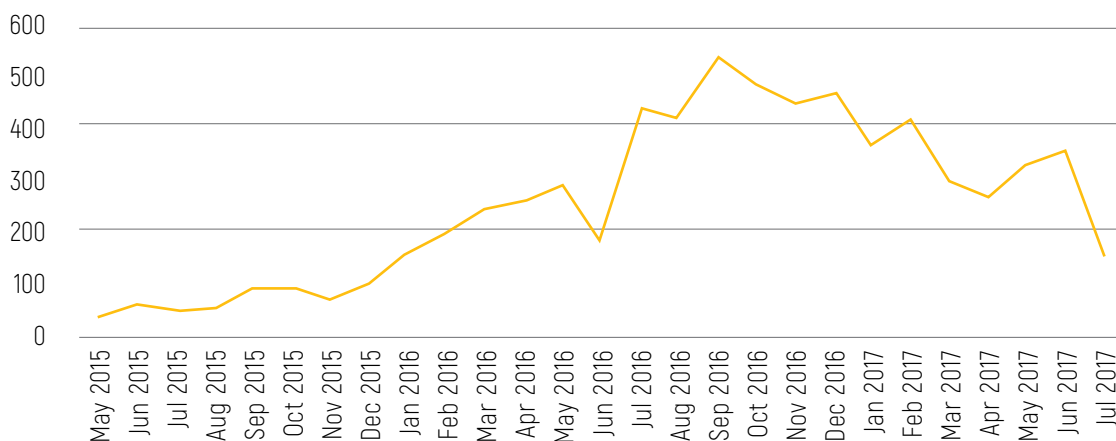
A review of African countries' experience with market-based exchange rate arrangements, specifically with foreign exchange auctions and floating rates, shows that success of such auctions to absorb the parallel market and reduce or eliminate the premium (for example, in Gambia) is associated with stabilization or reduction of liquidity growth. By contrast, the failures of auctions and floats (for example, in Ghana and Zambia) are associated with a loss of control over monetary policy (Agenor, 1992). The evidence also suggests that the premium fell sharply in all countries following the exchange rate reform, but a significant premium reemerged subsequently in those countries where money growth was not kept under control (for instance, in Ghana, Somalia, Sierra Leone and

Zambia). Fiscal factors account for a substantial rise in the inflation rate following the unification attempt. Given that the parallel market rate is an implicit tax, there is a trade-off between the premium (tax on exports) and inflation (tax on domestic currency holdings) in financing the budget deficit. The loss of revenue from exports through unification is replaced by an increase in monetary financing of the budget deficit and a higher tax on domestic cash balances.

**15. The rapid depreciation of the SSP has coincided with a period of high inflation.**

The annual Consumer Price Index (CPI) increased by 480 percent in 2016 and by 155 percent during July 2016-July 2017 according to the latest official statistics (Figure 3). Notwithstanding the recent downward trend, the very high inflation continues to put many households in both urban and rural areas unable to afford the minimum food basket.

**Figure 3** CPI inflation, year-on-year



Source: South Sudan National Bureau of Statistics<sup>6</sup>

CPI increased by **155%**  
during July 2016 - July 2017

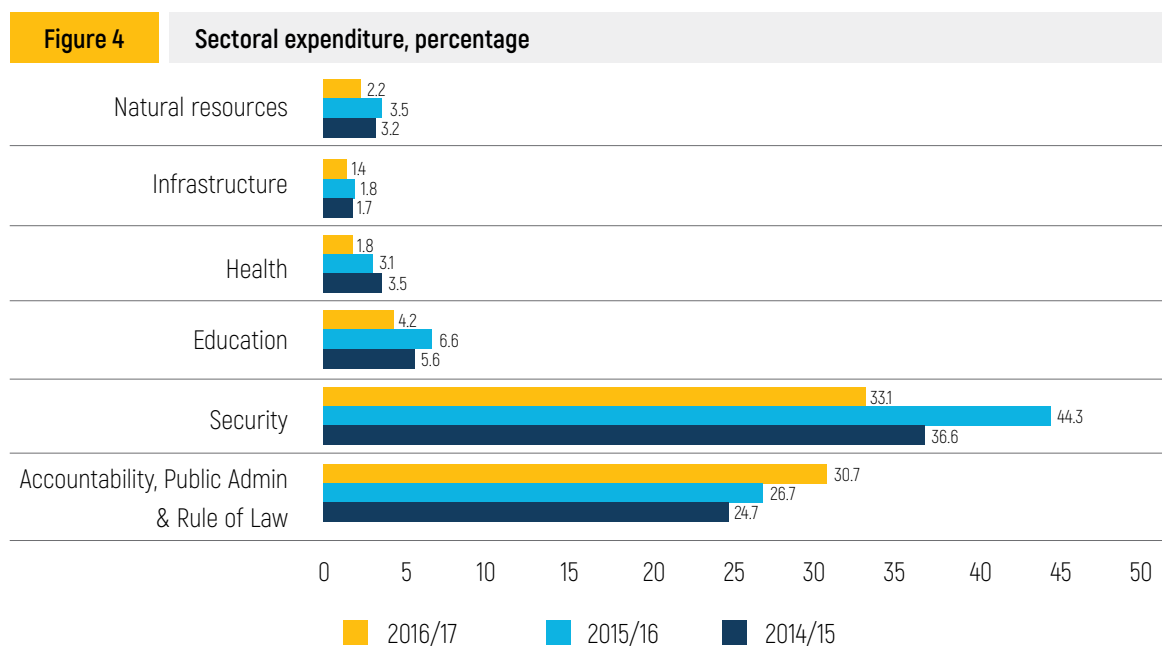
<sup>6</sup> <http://www.ssnbs.org/cpi/>

## Fiscal policy

**15. The fiscal deficit remains wide, but real magnitudes are difficult to estimate given the high inflation and lack of real time data.** Based on the FY 2016/17 budget, the fiscal deficit is estimated at about 14 percent of GDP.

**16. The 2016/17 budget was expected to restore macroeconomic stability.** The 2016/17 budget proposal was presented to the Transitional National Legislature in October 2016. The Economic and Fiscal Stabilization Measures and Action Plan presented as part of the budget put special emphasis on increasing non-oil revenues, reducing expenditure and improving cash management. The plan also recommended to stop borrowing from

the Bank of South Sudan to bring down inflation and prevent further depreciation of the currency. In terms of resource allocations for 2016/17, about 42 percent of the total domestically financed budget of about 33.3 billion SSP would be allocated to salaries dominated by the security sector, 19.5 percent to operating and capital expenditure, 19 percent to transfers to states and counties, and about 14 percent to peace and security. In terms of sectoral expenditure, combined expenditure on health and education is expected to make up around 6 percent of total government spending, with expenditure on security, public administration and rule of law projected to get the largest share continuing the trend of the last two years (Figure 4).



Sources: 2016/17 Budget Proposal and 2015/16 and 2014/15 Macro Fiscal Reports<sup>7</sup>

**17. The Government of South Sudan's expenditure on defense is high relative to other countries emerging from violent conflict.** While the current crisis in South Sudan has unique characteristics, it may be useful to look at other cases of conflict resolution to provide guidance on policy options and implementation. A recent review of violent

conflict "remission" episodes (Carey and Harake, 2017) shows that post-conflict spending on military declines sharply to between 2 to 3 percent of GDP in remission countries with a rearrangement of spending priorities toward social objectives. By contrast, spending on military in South Sudan amounted to more than 33 percent during the

<sup>7</sup> <http://grss-mof.org/>



last three fiscal years. There is need to reprioritize allocation of public expenditure away from defense with increased focus on capital expenditure and poverty-targeted expenditure such as education, health, agriculture, natural resources, and roads.


**18. The current account deficit is expected to narrow to 1.6 percent in FY16/17 from about 6.1 percent of GDP in FY15/16.** Export revenues decreased due to declining oil prices and lower oil production. Oil production is expected to decrease to about 120,000 barrels per day this fiscal year down from 165,000 barrels per day in 2014. This is less than half of peak production before independence in 2011. However, imports are also expected to decrease significantly, narrowing the current account deficit.

#### **Debt**

**19. South Sudan is in debt distress.** Despite moderate levels of external debt, the combined impact of a civil conflict, a large fall in oil prices, and high levels of fiscal spending has left South Sudan in debt distress. At independence in July 2011, the country had neither domestic nor foreign debt. However, since then the fiscal position deteriorated markedly because of a shutdown of oil production between January 2012 and April

2013, the civil conflict that erupted in December 2013, and the sharp drop in international oil prices since mid-2014. Moreover, a highly overvalued exchange rate in the period up to the liberalization of the foreign exchange market in December 2015 contributed to the rapid depletion of foreign exchange reserves. As a result, by June 2016, the stock of domestic and external debt owed or guaranteed by the central government amounted to about US\$1.4 billion (38 percent of GDP), while foreign exchange reserves had dwindled to about US\$70 million (about 2 weeks of prospective imports). This crisis has caused payment delays on international obligations, on civil servant salaries, and other government obligations. However, international lines of credit have been restructured on longer maturities, international reserves have declined to near exhaustion, and the country is currently constrained from accessing long term external financing.

**20. Assuming implementation of economic adjustment policies and a successful peace process, the debt outlook would improve considerably.<sup>8</sup>** With peace, good policies, a cautious borrowing strategy, and a relatively stable external environment, South Sudan could attain external viability over a relatively short period and achieve an improvement in its risk of debt distress



Debt owed or guaranteed  
by the central government  
amounted to about  
**US\$1.4 billion**  
by June 2016

<sup>8</sup> IMF (2017) "Republic of South Sudan Staff Report for 2016 Article IV Consultation—Debt Sustainability Analysis".

rating. This scenario assumes scaling up of external borrowing for infrastructure investments in the medium term and cautious domestic borrowing.

**21. However, vulnerabilities remain high and a prolonged period of lower oil prices or failure to address the country's economic and security problems could cause continued debt sustainability problems.** There are substantial downside risks to the scenario that assumes adjustment. In addition to subdued oil prices,

these risks include lack of political commitment to implement strong macroeconomic adjustment measures, deadlock in implementing sustainable peace, under-investment for enhanced oil recovery, unresolved territorial issues with Sudan, and protracted rent seeking behavior and corruption. These risks of prolonged fragility underscore the importance of a commitment to internal peace, economic reforms, and close cooperation with the international community.

### 1.3 Poverty and livelihoods in a high inflation environment

**22. The macroeconomic collapse, particularly through high inflation and increasing food prices, has led to a sharp increase in consumption based measures of poverty in urban areas between 2015 and 2016.** Urban households are more reliant on markets and have less recourse to their own production of food when faced with shortages and rising prices. They are also more likely to earn their livelihood through wages and salaries or through their own business enterprise compared to rural households.<sup>9</sup> Hence, stagnant wage levels and a general slowdown of economic activity will have led to these households experiencing a real decline in purchasing power and heightened food insecurity as food prices rise relative to income levels.<sup>10</sup>

#### Poverty

**23. Poverty in urban areas of South Sudan increased from 49 percent in 2015 to 70 percent in 2016.<sup>11</sup>** In 2016, almost 7 in 10 South Sudanese in urban areas were living below the international poverty line<sup>12</sup> (Figure 5). Female headed households were poorer than male headed households, with more than 3 in 4 female headed households living in poverty.<sup>13</sup> These and the following poverty estimates exclude 4 out of the 10 former states that are most insecure (Greater Upper Nile and Warrap) and should be considered lower bounds for poverty. Furthermore, data collection in 2016 was limited to urban areas due to growing security and budget constraints, and poverty in rural areas South Sudan tends to be more prevalent than in urban centers.<sup>14</sup>

<sup>9</sup> Based on the full HFS Wave 1 data (2015), 39 percent of urban households earn their livelihood primarily through wages and salaries and 15 percent from their own non-farm businesses. In contrast, only 6 percent of rural households sustain themselves earning wages and salaries and 4 percent from non-farm businesses.

<sup>10</sup> A more comprehensive presentation of livelihoods and perception can be found in the background paper 'Poverty, Livelihoods and Perception in a High Inflation Environment'.

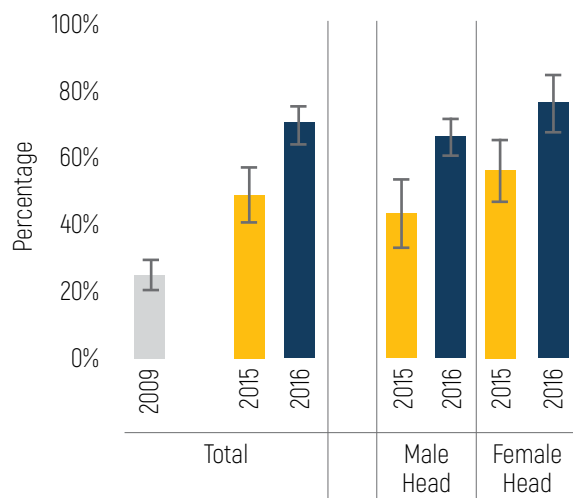
<sup>11</sup> Poverty is measured by the poverty headcount index, defined as the percentage of the population living below the poverty line. The analysis is based on the international US\$1.90 PPP (2011) poverty line, which translates into 8.71 SSP in July 2015. The South Sudanese PPP equivalent of the 2011 USD 1.90 international poverty line is USD 1.23 PPP. This is converted into South Sudanese Pound (SSP) at the USD-SSP exchange rate in 2011 of 2.95 and then adjusted for inflation using the CPI calculated by the NBS. All monetary values in this survey are converted into July 2015 SSP PPP.

<sup>12</sup> With a point-estimate of 70 percent and a 95 percent confidence interval from 63 to 75 percent.

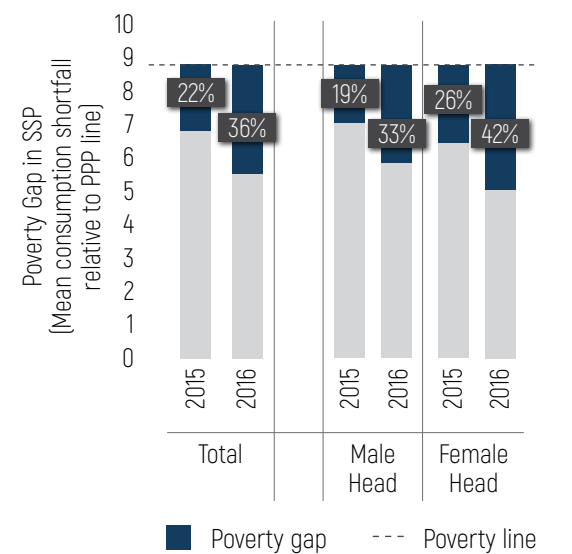
<sup>13</sup> 66 and 76 percent respectively,  $p < 0.01$

<sup>14</sup> In the first wave of the HFS the poverty headcount was about 50 percent in urban areas, and 68 percent in rural areas.

**Figure 5** Urban poverty headcount



**Figure 6** Urban poverty gap



Source: Authors' own calculations based on NBHS 2009, and HFS 2015 and 2016 data.

**Box 4**

**The High Frequency Survey collects key data in South Sudan.**

**The High Frequency Survey collected panel data for a representative sample of urban households to relate inflation to changes in livelihoods between 2015 and 2016.** The survey conducted repeated interviews for a sample of 643 households in urban centers across 6 of the 10 former states of South Sudan, drawn randomly based on a stratified two stage clustered design.<sup>15</sup> The fieldwork for Wave 1 was undertaken between the months of February to November 2015, and Wave 2 from January to May 2016. Although inflation had not reached its current levels, price increases remained high over the sample period, with prices in May 2016 reaching almost five times their February 2015 levels.<sup>16</sup> The conflict did not escalate until after July 2016, thus, the changes in livelihoods observed between the two waves were not primarily driven by insecurity.

**The HFS questionnaire covers a large range of topics, and paints a well-rounded picture of the material and psychological well-being of people in urban areas of South Sudan.** The HFS questionnaire

<sup>15</sup> The surveys were conducted over two waves of data collection. Wave 1 was carried out from February to November 2015, and Wave 2 from January to May 2016. A more detailed breakdown of the interviews by month can be found in the technical appendix accompanying the data. The data and the appendix are freely available on the World Bank's Microdata Library catalog (<http://microdata.worldbank.org>).

<sup>16</sup> Based on the High Frequency Price Index calculated using HFS market prices data.



covers topics including demographics, employment, education, consumption, as well as perceptions of well-being and of the effectiveness of public institutions. Consumption is measured using the newly developed rapid consumption methodology. In the rapid consumption methodology food and non-food consumption items are partitioned into core and non-core modules, and households are asked only about items in the core and in an assigned module. This reduces the number of items asked to households from 270 to about 120, household consumption is then estimated based on within survey multiple imputations.<sup>17</sup>

**The data is complemented by video testimonials providing a glimpse of the lives of the people of South Sudan.** At the end of the interviews, respondents are offered to provide a short video testimonial where they can share their views and anything they would like to communicate. This creates a more rounded perception of the situation on the ground in South Sudan. The translated testimonials are available at <http://www.thepulseofsouthsudan.com>.

**24. Poor urban households were worse off in 2016 than they were in 2015, as indicated by an increase in the poverty gap.**

The urban poverty gap increased from 21 to 36 percent between 2015 to 2016, meaning that the average poor urban household went from consuming 21 percent less than the international poverty line of US\$ 2011 PPP 1.90 in 2015 to 36 percent less in 2016.<sup>18</sup> Female headed households tended to be further away from the poverty line, with an average poverty gap of 41 percent compared to 25 percent for their male counterparts (Figure 6,  $p < 0.05$ ). Inequality amongst the poor also worsened, and the poverty severity index doubled from 0.10 in 2015 to 0.20 in 2016 ( $p < 0.001$ ).<sup>19</sup>

**25. The rapid loss of wages' purchasing power accounted in large part for the increase in poverty.** Although households supported primarily by wage earners remained amongst the

richer groups in the population of South Sudan (Figure 7), wage earning households experienced the largest decline in consumption compared to households relying on other sources of livelihood. Between 2015 and 2016, consumption for salaried households fell by more than a third ( $p < 0.001$ ). This caused many of these households to fall into poverty, and the poverty headcount amongst wage earning households more than doubled between 2015 and 2016 (28 and 62 percent respectively, Figure 8,  $p < 0.001$ ). Indeed, the households still relying on wages and salaries in 2016 were disproportionately represented in the population that fell into poverty between 2015 and 2016 (45 and 33 percent respectively,  $p < 0.05$ ). Similarly, poverty amongst households drawing on their own business enterprise for their livelihood saw a marked increase, from 43 to 61 percent between 2015 and 2016 (Figure 8,  $p < 0.05$ ).

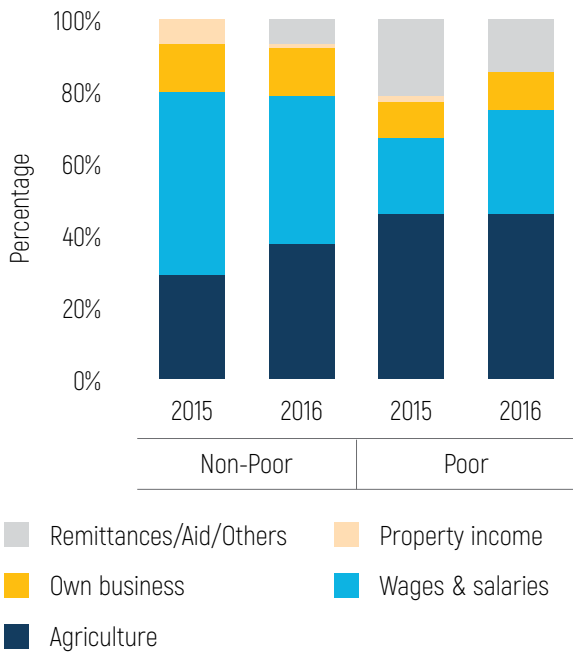
<sup>17</sup> More details on the rapid consumption methodology can be found in Pape and Mistiaen (2015).

<sup>18</sup> The poverty gap is the average gap in consumption of poor households relative to the poverty line.

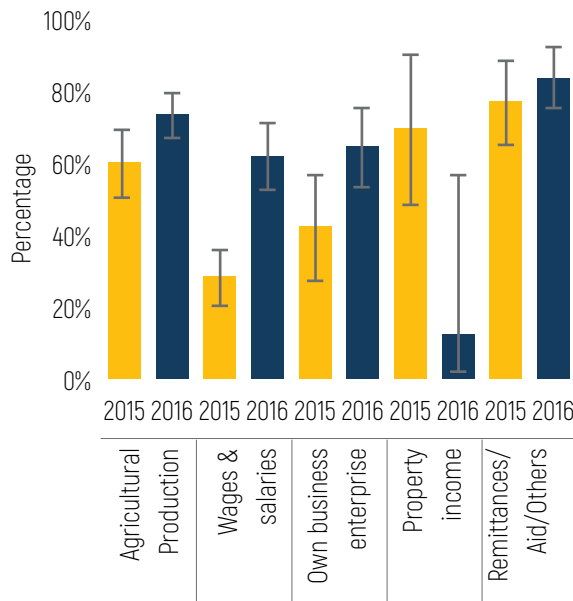
<sup>19</sup> Poverty severity is the average of the squared poverty gap, the poverty severity index therefore places more weight on poorer households and can capture inequality among the poor.



**Figure 7** Source of livelihood by poverty status, urban



**Figure 8** Poverty headcount by source of livelihood, urban



Source: Authors' own calculations based on HFS 2015 and 2016 data.

**Labor and employment**

**26. Economic instability led many of the working age to drop out of the labor force.**

The urban labor force participation rate in urban South Sudan dropped from one half to one third between 2015 and 2016 (50 percent to 33 percent respectively,  $p < 0.001$ ).<sup>20</sup> The particularly volatile economic, political and security conditions may be responsible for this surprisingly low active labor force participation.<sup>21</sup> Poorer households experienced a larger decline in labor force participation. In 2015, the labor force participation rate remained relatively similar between poor and non-poor households

and across expenditure quintiles, but in 2016, this difference became much more marked, especially amongst people in the poorest quintile for whom the labor force participation rate dropped from one half in 2015 to below one fifth in 2016 (51 and 17 percent respectively).

**27. The unemployment rate remained stable between 2015 and 2016, and about one in ten South Sudanese were unemployed.**

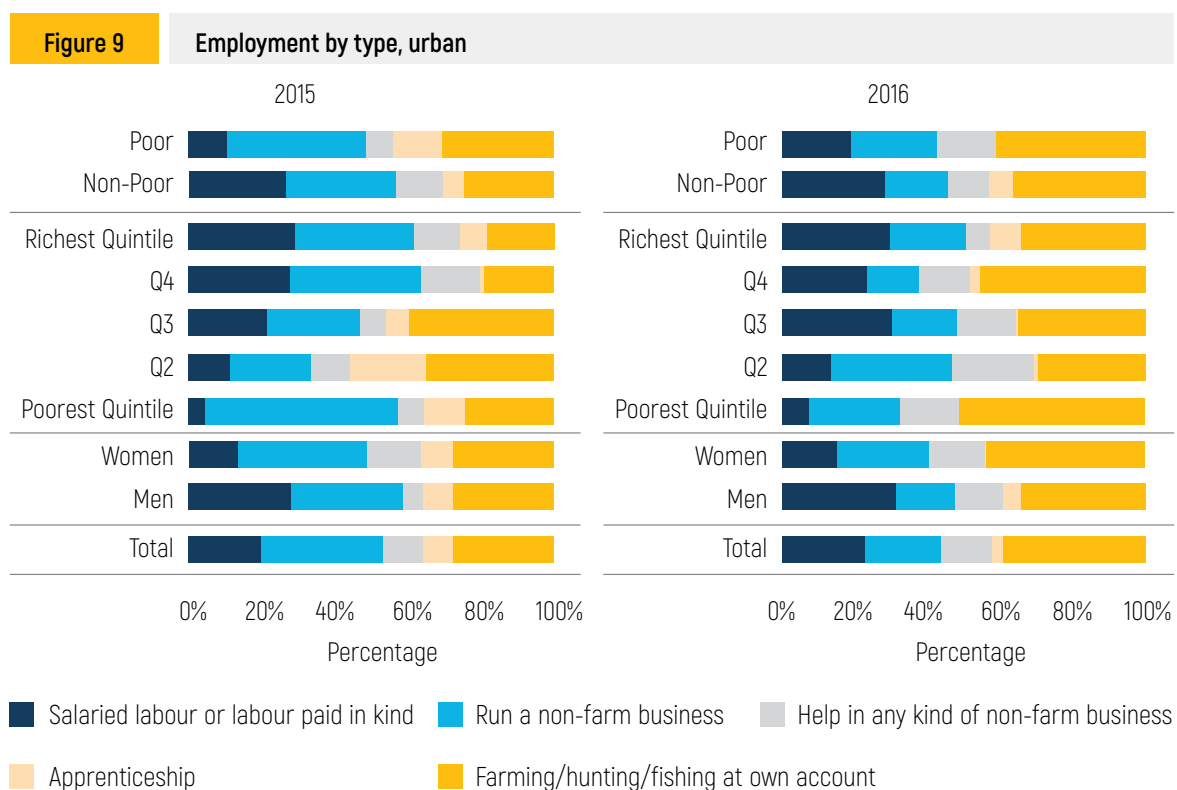
The unemployment rate in South Sudan was 9 percent in 2015 and 11 percent in 2016. Relatively high levels of employment are common in

<sup>20</sup> The labor force participation rate is the ratio of the active in the labor force to the total working age population. A person is defined as active if of working age and currently in employment or unemployment. More details on the construction of these variables can be found in the technical appendix.

<sup>21</sup> The labor statistics of the HFS are drawn from an interview of a knowledgeable person (often the household head) in the household asked about the other members in the household. This often results in less accurate reporting than individual interviews with all household members. The labor force participation over a longer reference period, 12 months instead of 7 days, is considerably higher and more consistent with levels typical of a developing country higher (75 percent in 2015 and 54 percent in 2016,  $p < 0.001$ ).

developing countries, largely because the lack of a social safety net eventually forces the unemployed into subsistence farming and other such forms of basic self-sustenance. In addition,

many unemployed become inactive because they give up looking for a job after losing hope to find one of the few opportunities.



Source: Authors' own calculations based on HFS 2015 and 2016

**28. Farming, hunting, and fishing at own account became a more common type of employment, in particular amongst the richest households (Figure 9).** In 2015, the non-poor were much more likely to be employed as salaried workers (29 and 28 percent for the top and fourth quintile respectively), or to help in or run a non-farm business (46 and 52 percent for the top and fourth quintile respectively). Meanwhile, workers in the second and third quintiles of income were more likely to farm, hunt, or fish at their own account compared to workers in the top two quintiles and the bottom quintile (20 vs. 38 percent respectively,  $p < 0.05$ ). The economic turmoil changed this, and many households in those quintiles turned to agricultural production. Only about 2 in 10 people in the top two quintiles

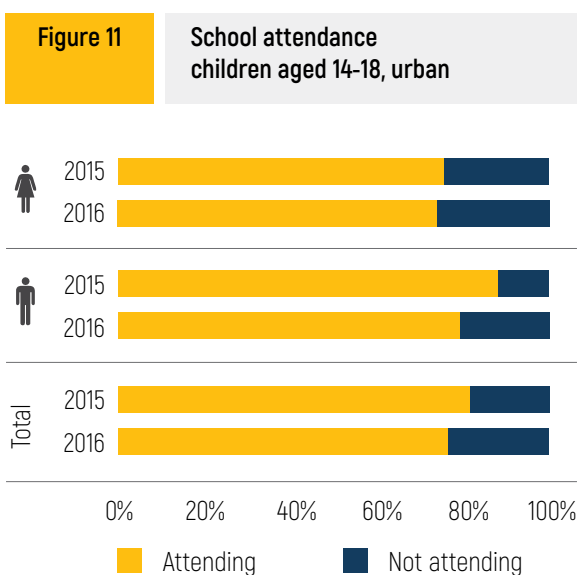
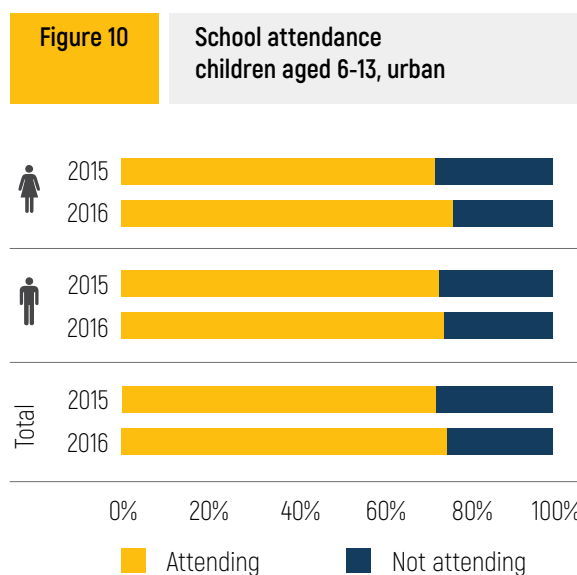
were undertaking agricultural production in 2015. In 2016, this number doubled to about 4 in 10 (from 18 to 36 percent for the top quintile,  $p < 0.01$ , and from 19 to 42 percent for the fourth quintile,  $p < 0.05$ ). This shift in employment patterns is consistent with business income or wages and salaries becoming less reliable sources of income, forcing people to enter agricultural production at their own account.

**29. Despite lower economic outcomes school attendance remained stable, about 3 in 4 of the South Sudanese children were attending school in early 2016.** The school attendance rate was 76 percent in both 2015 and 2016. This is a relatively high rate of attendance, and may have deteriorated since, given the political instability

and escalation of insecurity that took place since this data was collected. Nevertheless, educational outcomes amongst the poor slightly improved from 2015 to early 2016. In particular, school attendance of children in the poorest quintile increased from 61 percent in 2015 to 72 percent in 2016 ( $p < 0.05$ ).

**30. In early 2016, there were no indications that older children were dropping out of school to join the labor force.** It would be expected that during times of economic hardship children of working age would drop out of school and join the workforce in order to help the household

sustain its livelihood. However, there were no indications that this was happening at a large scale in the states covered by the survey in 2016. The school attendance rate of boys aged 14 to 18 was slightly lower in 2016, having declined from 88 percent in 2015 down to 79 percent in 2016 (Figure 11). However, this difference is not statistically significant. Again, it should be noted that this data dates from early 2016, before the conflict escalated. It is difficult to predict how these trends may have evolved since, but these figures do indicate that inflation at the levels which it stood in the period under study did not cause a large decline in school attendance.



Source: Authors' own calculations based on HFS 2015 and 2016

## 1.4 Food insecurity due to conflict and high inflation

**31. South Sudan's unprecedented level of hunger is the most alarming signal of the country's larger economic collapse.** Despite the agricultural potential, the rural population has been continuously affected by food insecurity in the last few years. Food security in South Sudan is increasingly deteriorating since the conflict in 2013. Heightened tensions and renewed clashes across the country following the July 2016 conflict

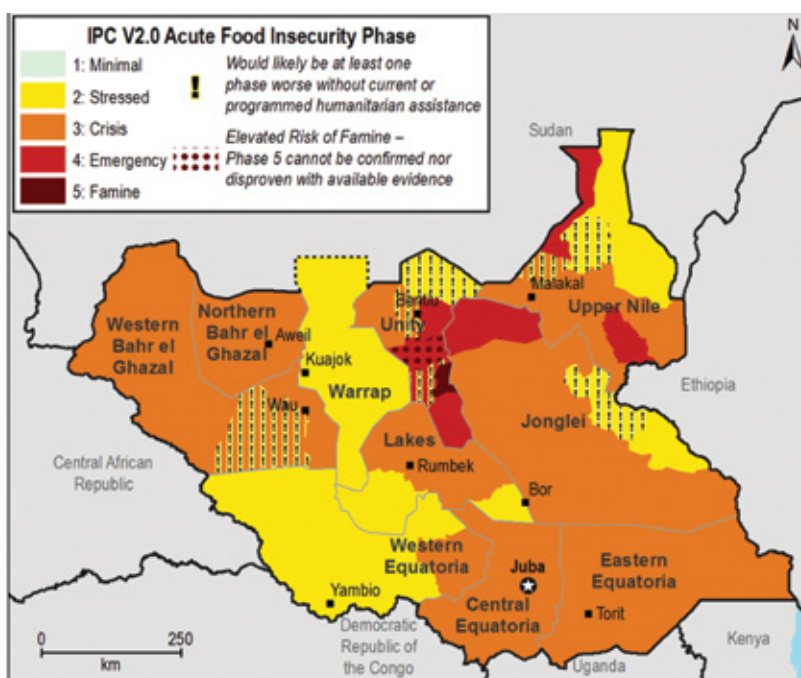
have further aggravated already overwhelming needs. Nearly 3.6 million people were estimated to be severely food insecure between October and December 2016, the highest levels experienced in South Sudan at harvest time. In both rural and urban areas, the food insecure population has at least doubled compared to the same time last year. As of February 2017, famine has been declared in parts of South Sudan, with about

4.9 million people (and projected to increase to 5.5 million in July 2017) in need of urgent food, agriculture and nutrition assistance (FAO, 2017). This condition (IPC Phase 5) is marked by high levels of excess mortality. Unity State, where displaced households already face an extreme lack of food, is the area of greatest concern

(Figure 12). The total number of refugees from South Sudan has increased to 1.3 million, while two million people are counted to be internally displaced. Predicted changes in climate, both in terms of more intense rainy seasons as well as hotter and dryer dry seasons, could heighten future food insecurity nationally.

Figure 12

Food security outcomes, April 2017



Source: FEWSNET (2017a)<sup>22</sup>

**32. A confluence of reasons has led to the observed food insecurity.** These include: (i) reductions in domestic production due to conflict and drought; (ii) regional drought in the Horn of Africa (especially Uganda and Sudan, the major sources of South Sudan’s food imports) which has reduced output in these countries thus constricting the amount of imports that South Sudan can viably access; (iii) high food prices mainly driven by the high inflation rate and the depreciation of the local currency; and (iv) destabilization of markets due to restrictions on movements in commodity supply corridors.

**33. Food production shortfalls are substantive.** Preliminary results of the FAO/WFP Crop and Food Security Assessment Mission (CFSAM) state that overall food production for 2016 (the last harvests of which came in January, 2017) is estimated at about 10 percent below the already low and insufficient long-term average of 826,000 tons. In addition, FAO and WFP (2017) estimate a cereal deficit of about 498,800 tons in 2017 up from 381,000 tons in 2016 and 248,666 in 2015 (Figure 13). With the exception of Warrap, all states in South Sudan face deficits of cereals in 2017. The conflict-troubled state of

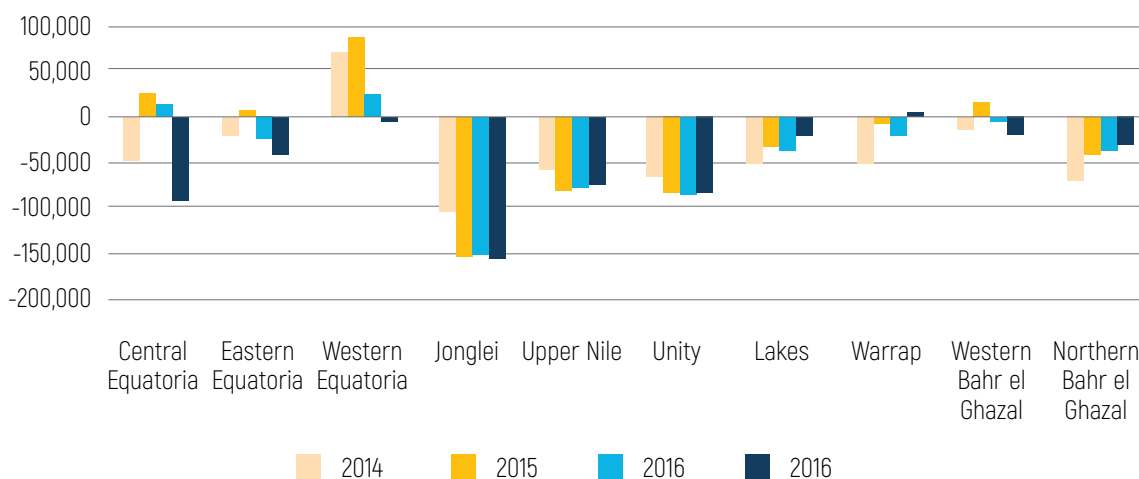
<sup>22</sup> <http://www.fews.net/east-africa/south-sudan/food-security-outlook/february-2017>



Jonglei is projected to face the highest deficit of over 150,000 tons of cereals. The largest 2017 deficits are forecasted in the three most conflict-stricken states of Jonglei, Unity and Upper Nile states, with an aggregate shortfall in cereal of

over 300,000. In certain states such as Lakes, Northern Bahr el Ghazal and Western Bahr el Ghazal states, FAO and WFP (2017) forecasts a moderate deficit of less than 40,000 tons.

**Figure 13** Estimated cereal deficit/surplus 2014-2017

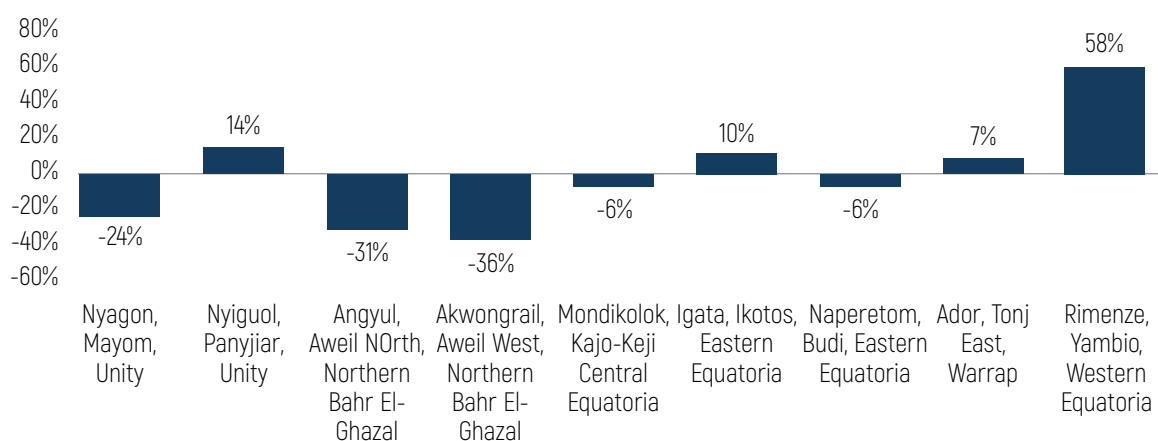


Source: FAO and WFP (2017)

**34. The decline in production could be also attributed to a significant decline in the area under cultivation.** Specifically, Aweil North and Aweil West of Northern Bahr el Ghazal State both witnessed a significant decline in area cultivated in 2016 vis-à-vis that in 2012 (Figure 14). The reduction in area cultivated is attributed, in part, to displacement out of the state during

key cultivation months. Production is expected to be significantly below average. In Unity State and Central Equatoria State, the results of area planted are mixed. Decreased cultivation is also observed in Mayom, which is a part of the state of Unity. In Panyijiar, however, above-average cultivation was observed, which was partly driven by substantial IDP inflows.

**Figure 14** Changes in cultivated area from 2012/2013 to 2016



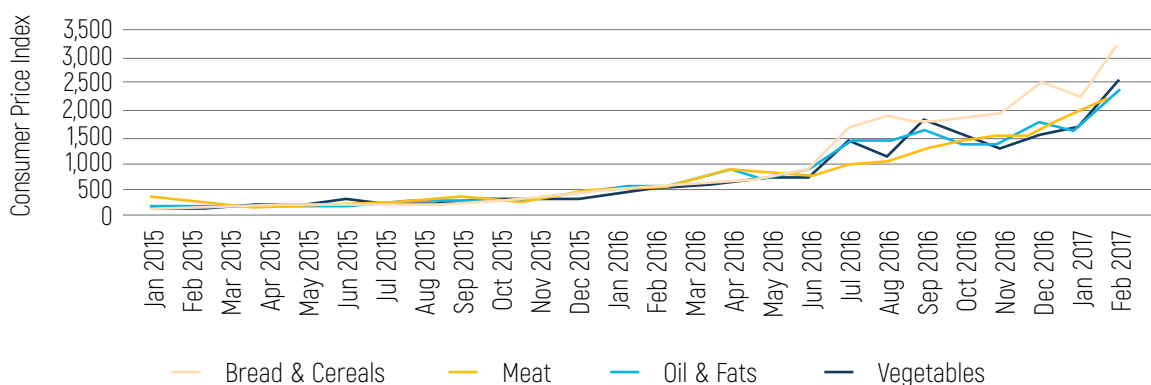
Source: FEWSNET (2016)

**35. The collapse of the macro-economy, especially high inflation has led to large increases especially in food prices.** On average, the prices of most food crops in major markets now hover around 345 percent to 1100 percent above their long-term average (2007-2015). According to the National Bureau for Statistics, the Consumer Price Index for food products increased by 513 percent between December 2015 to December 2016 and

334 percent between May 2016 and May 2017. The highest increases are registered for bread, cereals, and fruits with prices increasing by more than 500 percent between February 2016 and February 2017 (Figure 15). Such extreme increases in prices have had a serious adverse impact on the purchasing power and the food security of poor households, the majority of whom depend on the market for their food supplies.

**Figure 15**

**Consumer Price Index (CPI) of select commodity groups in Juba, South Sudan**

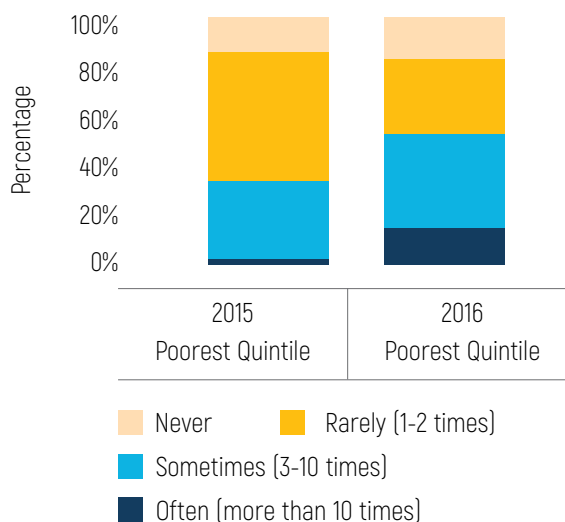


Source: SSNBS CPI<sup>23</sup>

**36. Hunger for the poorest households increased sharply between 2015 and 2016.** The likelihood of experiencing hunger 'often' (more than 10 times per month) increasing from 2 percent to 13 percent for the poorest quintile of households, while the incidence of experiencing hunger 'often' or 'sometimes' (3 to 10 times per month) increased from 26 to 44 percent for the second poorest expenditure quintile (Figure 16). While richer households may be able to respond to a rise in food prices by adjusting their diets towards more staple and less expensive foods, the poorest households' diet may already be consisting primarily of such foods, and as prices increase they are unable to afford even basic sustenance. In 2016, households in the poorest quintile were more than ten times more likely than households in the top four quintiles to have experienced

**Figure 16**

**Hunger incidence over the past 4 weeks, urban**



Source: Authors' own calculations based on HFS 2015 and 2016.

<sup>23</sup> Available at: <http://www.ssnbs.org/cpi/>

hunger 'often' in the past month (15 vs. about 1 percent respectively,  $p < 0.05$ ).

**37. Survival and coping strategies for the population.** While awaiting the government's commitment to a political settlement and macroeconomic reforms, the population will likely be forced to engage in creative survival and coping strategies, often in the informal sector as seen elsewhere. Examples from Zimbabwe, a country whose annual inflation rate skyrocketed above 100-thousand percent, highlight innovative coping mechanisms to allow consumers to afford a few basic food items.

- Very often homeowners or business owners in Zimbabwe demanded rents and payments in US dollars or South African rand. Many residents of high-density areas became vendors, selling a variety of commodities. Once they got their money at the end of the day, they immediately bought foreign currency which was resold at a profit.
- Government employees were still able to go to work daily and leave for home with some money in their pockets. Some government workers reported to have converted their offices into mini-supermarkets to sell scarce commodities. They were well-positioned because they had phones at their disposal. Their superiors received generous allocations to allow them continue such informal activities.
- A big part of the parallel market revolved around fuel procured by agents of senior government officials at subsidized government rates and resold at high profit margins. Illegal

fuel and mineral dealers profited most from the country's economic chaos.

- Those with relatives in the diaspora and those engaged in the cross-border trade also managed to cope with the crisis.<sup>24</sup>
- Businesses would be advised to never allow cash to remain idle, be prepared to convert dollars into a stable foreign currency, whenever possible, deal in cash payments, develop practices that enable to internally finance working capital, and consider the possibility of acting as an acceptance company to facilitate your customers' purchases.

**38. Displacement and despair.** There is a risk that South Sudanese citizens are already engaged or will be forced to participate in similar informal and often illegal activities. However, the majority of the population in rural areas will continue to rely on subsistence agriculture, facing dire conditions. As opposed to Zimbabwe, there is little evidence that remittances from diaspora have a significant role in coping with high inflation in South Sudan. Anecdotal evidence from South Sudanese refugees in Australia suggests that most remittances destined to South Sudan (Nimule, Yei, Juba) are spent in Uganda and Kenya (Kampala and Nairobi). Due to lack of infrastructure (financial institutions), South Sudanese have to travel to neighboring countries (Kenya, Uganda) to receive remittances and purchase goods and services there. However, with the deteriorating security situation, it is unlikely that such travel remains possible. Rather, it is expected that the number of refugees will increase, putting additional pressure on receiving neighboring countries.<sup>25</sup>

<sup>24</sup> <http://www.voanews.com/a/a-13-2008-03-20-voa39/339761.html>

<sup>25</sup> UNHCR reports that 60,000 people have fled the country since violence broke out in Juba in July, bringing the overall number of South Sudanese refugees in neighboring countries since December 2013 to nearly 900,000. Uganda is currently seeing the heaviest refugee influx, receiving more than 52,000 South Sudanese refugees since the beginning of July 2016. Kenya has reported the arrival of 1,000 refugees in the same period, while 7,000 have fled to Sudan.

## 1.5 Perceptions of welfare and performance of public institutions

### 39. Many household reported lower life satisfaction and felt less in control of their daily lives.

Respondents were asked to score their life satisfaction from 0 to 10, where 10 was characterized as the best possible life and 0 as the worst possible life for them. The average life satisfaction score fell between 2015 and 2016, from about 3.5 to about 2.4 out of 10 (Figure 18,  $p < 0.001$ ). A similar decline is observed for respondents across expenditure quintiles, and

for poor and non-poor households overall. This general decline in life satisfaction was mirrored by a growing feeling amongst the South Sudanese that they are powerless in the face of deteriorating economic and political conditions. The share of respondents who felt that they had no control over their daily lives increased from about one quarter to more than one third between 2015 and 2016 (25 and 38 percent respectively, Figure 17,  $p < 0.01$ ).

Figure 17

Feeling in control over own life, urban

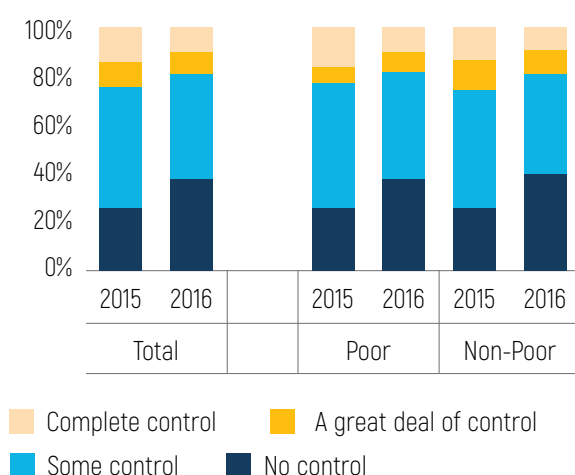
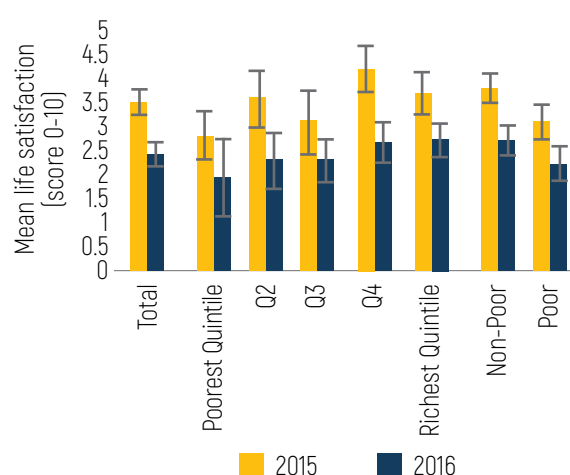


Figure 18

Life satisfaction score, urban



Source: Authors' own calculations based on HFS 2015 and 2016.

### 40. The majority of respondents were pessimistic about the future of South Sudan and believed that economic conditions would continue to deteriorate.

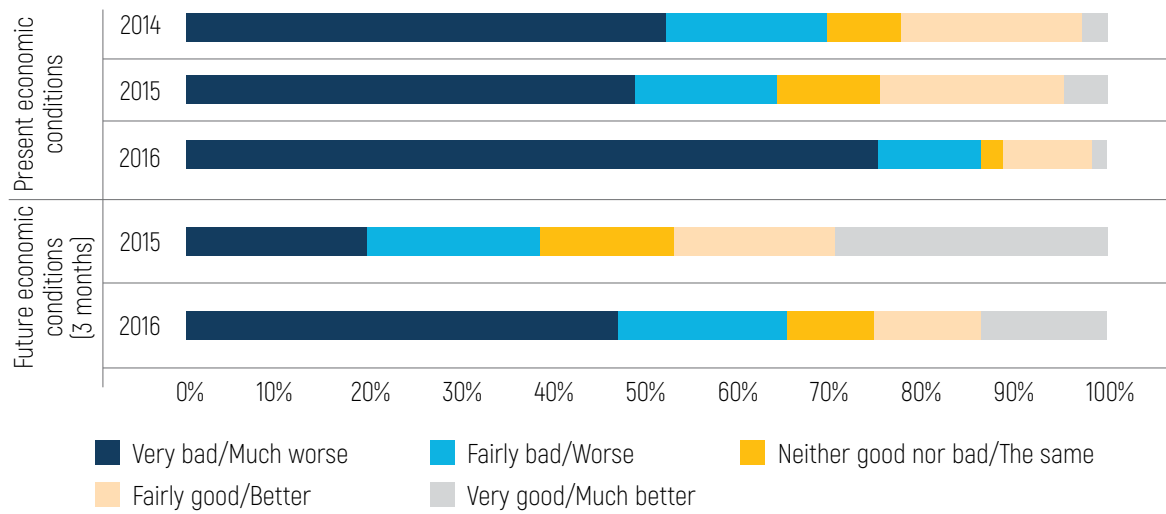
The South Sudanese were increasingly worried about the future of their nation's economy, and pessimism with respect to future economic conditions became more prevalent. The share of households believing that conditions in three months will be worse increased from 38 percent in 2015 to 65 percent

in 2016 (Figure 19,  $p < 0.001$ ). Furthermore, when asked about their greatest fear for the future of South Sudan, respondents in 2016 were much more likely to cite concerns such as the lack of opportunities for youth, a lack of jobs, poverty, and an overall bad economy than they were in previous years. About 3 in 10 respondents cited economic concerns as their main fear for the future in 2015, compared to one half in 2016 (29 and 50 percent respectively,  $p < 0.001$ ).



Figure 19

Perception of economic conditions, urban



Source: Authors' own calculations based on HFS 2015 and 2016.

**41. Economic and political volatility negatively affected respondents' perceptions of the Government's and other public institutions' performance.** Respondents in urban areas did not think that the Central Government and other domestic public institutions were very effective in improving the living conditions and life of the people of South Sudan. Respondents' perceptions were already in low in 2015, with half of all households believing that the Central Government was ineffective or very ineffective in improving the daily life of its constituency. These numbers increased sharply between 2015 and 2016, and in 2016 almost 3 in 4

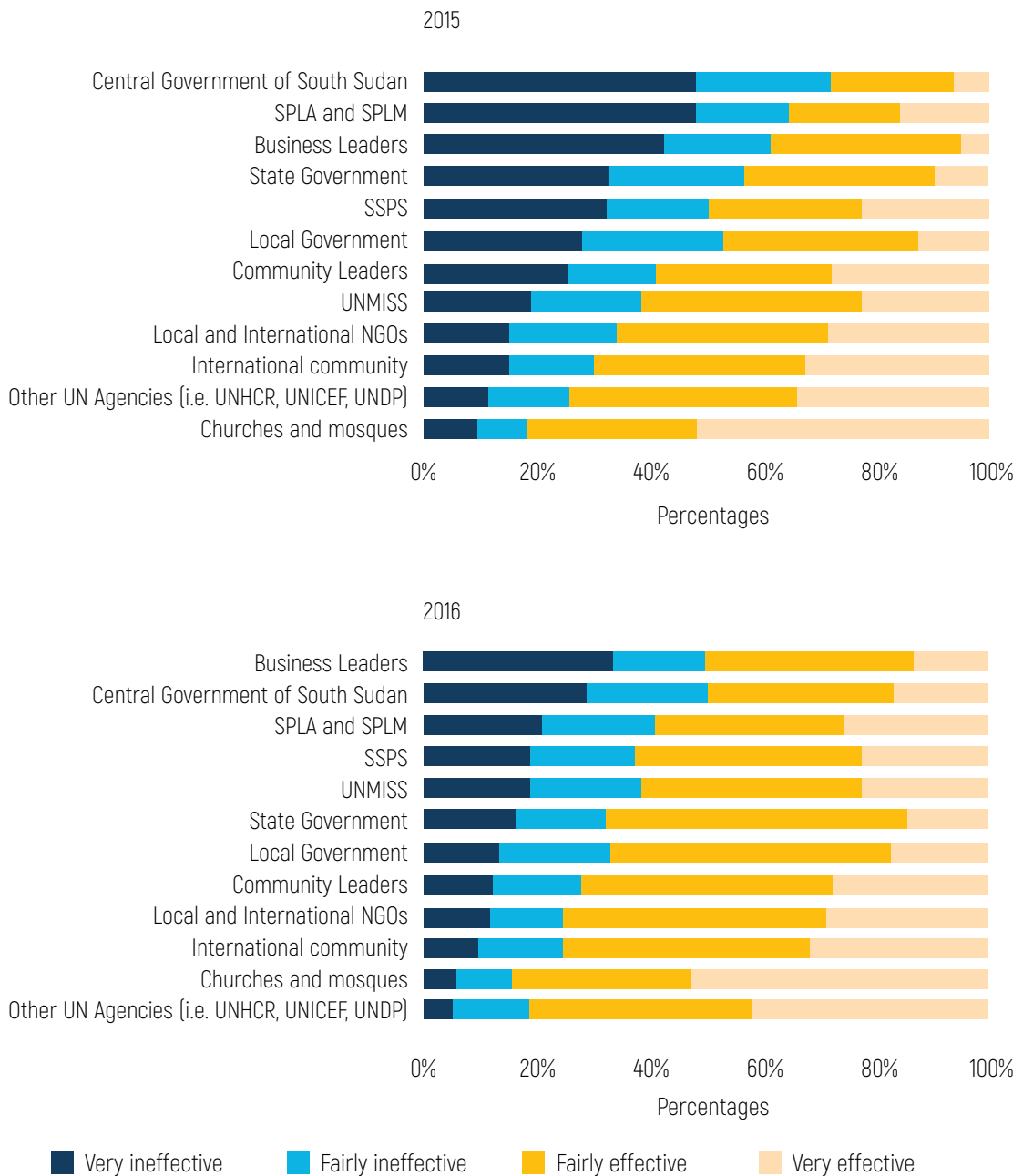
respondents held a negative view of the Central Governments' effectiveness situation (50 and 72 percent respectively, Figure 20,  $p < 0.001$ ). Respondents were especially dissatisfied with the Government's performance in dealing with matters of economic policy. About 9 out of 10 respondents rated the government's performance in keeping prices down badly in both years. Similar levels of dissatisfaction were felt with respect to the Government's performance in creating jobs and ensuring everyone had enough to eat, where about 8 out of 10 and 9 out of 10 households respectively rated it as bad or very bad.



About **9** out of 10 respondents rated the Government's performance in keeping prices down badly

**Figure 20**

**Perceptions of effectiveness of public institutions, urban**



Source: Authors' own calculations based on HFS 2015 and 2016 data.

## 1.6 Outlook and risks

### **42. The growth outlook for FY17/18 remains dire.**

Real GDP is projected to further contract by 6.6 percent. The fiscal deficit is projected to increase. Continued exchange rate depreciation and volatility will likely be associated with increasing dollarization (Table 1).

### **43. A key priority for the government is to address the underlying causes of the country's current macroeconomic collapse and food insecurity.**

It urgently needs to restore peace and security and implement comprehensive macroeconomic reforms. The latter include measures to unify the official and parallel exchange markets and reduce inflation, as well as longer term action to boost employment, build infrastructure and diversify the economy, with special emphasis on agriculture development. Trade and deeper regional integration with the EAC neighbors can become an effective instrument for ensuring food security and facilitating longer term market development. It is likely that immediate measures will focus on working with humanitarian actors on delivering emergency food to communities in need, although ongoing conflict could derail this effort. Without the government's real commitment and proactive action to end the conflict and stabilize the economy, it is premature to envisage a post-conflict path for the economy.

### **44. The renewed threat of violence and instability are likely to aggravate the situation.**

In a context of violence and widespread conflict, it is unlikely that the macroeconomic woes of the South Sudanese will be remedied anytime soon. Instability is contributing to the limited supply of foreign exchange by deterring foreign investors and traders from contributing to the South Sudanese economy. The conflict has also impacted aid work, and is likely to reduce the livelihoods of the poorest and of those

displaced by the conflict, who may need to rely on humanitarian relief.

### **45. Prior to adopting an adequate anchor to address high inflation, the government needs to pursue fiscal consolidation by limiting expenditure and raising revenues.**

The government can limit an imminent economic crisis scenario and start stabilizing the economy by committing to improve the fiscal situation as a key priority. Falling revenue coupled with rising spending, in extremely high magnitudes, constitutes a major problem in South Sudan. Therefore, strong commitment to fiscal discipline is key for recovery. First, any fiscal deficit should be limited in size to the amount the government can borrow externally to avoid recourse to the inflation tax. Second, monetary expansion needs to be limited to increases in NFA of the Bank of South Sudan.

### **46. A credible fiscal consolidation requires the implementation of reforms on the revenue and the spending side.**

Reforms on the revenue side include: (i) increasing non-oil revenues by reviewing the tax base, including customs duties and introducing incentives to increase compliance; and (ii) increasing transparency of oil revenues through full and transparent enactment of the Petroleum Revenue Management Act and effective implementation of a single USD account system to better account for USD spending at Ministry of Finance and Economic Planning and Bank of South Sudan. Reforms on the spending side include: (i) reviewing the civil servant salary pay system and cleaning up the payroll; (ii) implementing states transfers' reductions, reductions of current operational spending and restructuring of Nilpet operations; (iii) rationalizing the usage of explicit and implicit subsidies currently at use; and (iv) passing into law the Public Procurement and Disposal of Assets Bill.

**47. The FY17/18 National Budget Plan aims to restore macroeconomic stability, but lacks credibility.**

It puts special emphasis on controlling public expenditure, increasing non-oil revenues, encouraging investment and economic diversification and removing subsidies to the national oil company (Nilepet). The plan also recommends to refrain borrowing from the Bank of South Sudan to bring down inflation and prevent further depreciation of the currency. Although the FY17/18 draft Budget foresees a two-fifth cut in expenditure in dollar terms compared to the 2016/17 budget, it is unlikely that enough cash will be available to execute all budgeted items. While it is difficult to predict the prioritization of expenditures, it is likely that the government will continue to protect security spending and core executive functions. Thus, the population will become even more dependent on humanitarian relief and donor funded development projects for access to services. Even if the economy showed some recovery starting 2018, poverty projection suggests poverty will continue to rise through 2019 as economic growth is likely to be surpassed by population growth.

**48. In addition to credible fiscal consolidation, reform would require an “anchor” for the value of the currency to bring expectations under control.**

Part 2 provides more details and guidance to policy makers in South Sudan on options to choose an anchor to control inflation based on the experience of other developing countries, including post-conflict countries.

**49. Complementary Public Financial management (PFM) reforms related to transparency around budget execution and oil revenues remain critical,**

especially as regards the activities of Nilepet (the national oil company) and the Ministry of Finance and Economic Planning, and the link of oil revenues to foreign exchange management and on-budget revenues. The Government would need to improve the PFM framework, particularly the establishment of a Cash Management Committee and require the immediate transfer of revenues from government accounts in the commercial banks to the treasury accounts.

**50. Longer term measures should include social protection programs to create resilience against future shocks and create jobs for more sustainable livelihoods as well as measures to build infrastructure and diversify the economy,**

with special emphasis on agriculture development. Trade and deeper regional integration with the EAC neighbors can become an effective instrument for ensuring food security and facilitating longer term market development. It is likely that immediate measures will focus on working with humanitarian actors on delivering emergency food to communities in need, although ongoing conflict could derail this effort. In any event, without the government’s real commitment and proactive action to end the conflict and stabilize the economy, it is difficult to engage in realistic discussions about a sustainable post-conflict stabilizing and – prospectively – development trajectory.





## 2

# Special Focus - Taming the tides of high inflation: policy options for South Sudan

## 2.1 Introduction

**51. What can South Sudan do to curb spiraling inflation? As described in Part 1, on an annual basis inflation was just slightly under the hyperinflation mark of 500 percent in 2016.** As described in Part 1, on an annual basis, inflation was just slightly under the hyperinflation mark of 500 percent (see Box 4 for more on hyperinflation, including the top hyperinflation episodes in history). Countries have historically tamed extreme inflationary situations using Exchange-Rate -Based Stabilization (ERBS) plans and Money-Based Stabilization (MBS) plans. Monetary or inflation targeting has been popularly adopted by many central banks around the world as a strategy for monetary policy with the expectation that the adoption of such a monetary regime would reduce inflation and inflation volatility. Under a spiraling inflationary situation, an exchange rate anchor, in combination with a broader set of stabilization

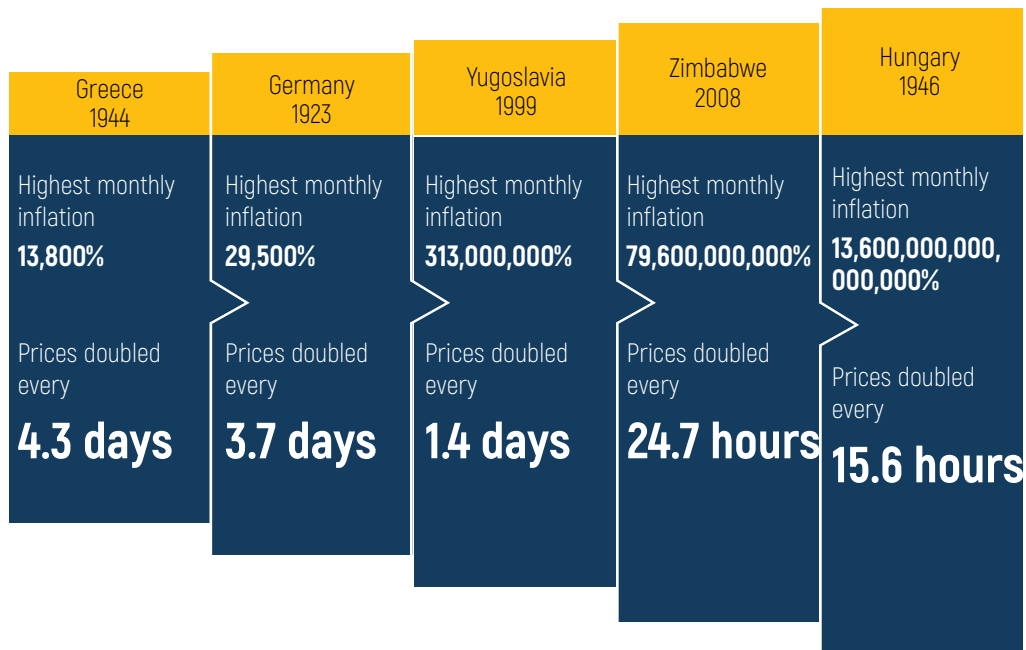
programs that combine fiscal prudence with a tighter monetary regime of varying forms may be another option especially in countries with limited institutional capacity.

**52. All stabilization plans need a nominal anchor to lower inflation and they differ among each other depending on which nominal anchor is used.** Nominal anchors play a fundamental role in successful stabilization plans. First, setting a predetermined path for the exchange rate or the amount of money helps pin down prices and controls inflation expectations. Second, a nominal anchor limits political pressures to pursue expansionary monetary policies that could fuel inflation (Mishkin, 1999). Third, nominal anchors send a strong signal to the market that the policy regime has shifted and the government is credibly committed to fighting inflation (Bruno, 1991).

**Box 5****Hyperinflation experiences**


Many countries ranging from France in 1795 to Zimbabwe in the recent years have witnessed periods of hyperinflation. More developed countries such as Germany, USSR, Austria, Poland, Bulgaria and Hungary have gone through hyperinflation, albeit way back in time after the First World War. After the Second World War, Hungary, Greece, China, Taiwan and the Philippines went through exceptionally high inflation. During the 1990s, many Europe and Central Asian (ECA) economies such as Armenia, Ukraine, Bulgaria, Estonia, Azerbaijan, Russia, Kyrgyzstan, Tajikistan, and Kazakhstan went through hyperinflation. Latin American countries such as Peru, Argentina and Brazil, as well as African countries such as Congo (and the DRC in the late 1990s), Angola and Zimbabwe also went through hyperinflationary situations.<sup>26</sup>

The reality of hyperinflation is that prices change so rapidly that everyday items rise exponentially and money becomes worthless, virtually overnight or even in the course of a working day (see Figure 21).

**Figure 21****Top 5 hyperinflation situations in history**

<sup>26</sup> This is based on Hanke and Krus (2013) compilation. This is different from previous studies using Cagan (1956) definition that documented fewer records of hyperinflation. For example, Fisher, Sahay, and Végh (2002) report that between 1920 and 1946 there were eight hyperinflations, while there were no cases between 1947 and 1984. Since 1984 to 2007, there have been fifteen hyperinflation cases. Using a 12-month inflation rate of 1,000 percent as the threshold for defining a period of high inflation, Coorey et al. (2007) identify 30 episodes of inflation in 24 countries between 1980 and 2005, including countries from Latin American (5), Europe and Central Asia (17), and Africa (2). Six of these countries (Argentina; Brazil; Democratic Republic of Congo; Macedonia, FYR/SFRY; Nicaragua; and Tajikistan) out of the 24 countries experienced two periods of high inflation.





In general, hyperinflation coincides with wars and a series of ill-advised fiscal policy decisions that result in a rapid increase in the money supply without economic growth support. Hanke and Kruse (2013) point out that hyperinflation occurred when the supply of money had no natural constraints and was governed by a discretionary paper money standard.” This shows that any fiat currency is susceptible to rampant inflation, although to take hold, hyperinflation requires a series of extreme political and social circumstances.

The length and the severity of hyperinflation have varied across countries. For example, Hanke and Krus (2013) report that during the inflationary period in Hungary (1945-46), an increase in consumer prices as high as  $4.19 \times 10^{16}\%$  was recorded in July 1946 (see Annex 2 for more details). Coorey et al. (2007) find that the length of the crisis in ECA countries is close to one year, while in Latin American economies the median was twice as long. Until the early 2000s, high inflation was prevalent in Latin American economies. In fact, the region suffered from chronic inflation and registered the highest inflation rate in the world. Inflation reached a peak between the 1980s and 1990s when many Latin American countries suffered from exceptionally high inflation and, even, hyperinflation. In the period 1981-90 the average annual inflation rate among Latin American countries reached 145 percent whereas in the period 1991-98 this value was 97 percent (Elberg et al., 1999). In some years, annual inflation even surpassed 1,000 percent in some countries (Burki and Perry, 1997). However, by the end of the 1990s, inflation started to relent in Latin America and in 1998 average annual inflation in the region reached 11 percent (Elberg et al., 1999). Since then, Latin American countries have been successful in maintaining inflation in check and, with some exceptions, countries have been able to keep annual inflation below a two-digit value. In the context of unbridled inflation during the 1980s and the 1990s, Latin America became a laboratory in which policymakers experimented with a wide range of stabilization plans in an attempt to put a halt to inflation.







Source: Hanke and Kruse (2013)

**53. What matters for South Sudan is to learn how these countries, including conflict countries, have managed to stabilize the inflationary crisis and what lessons can be drawn from their experience.** To provide such guidance, this section summarizes the main characteristics of ERBS and MBS, and compares their effects on the economy using the experiences of countries in Africa, Latin America, Europe and Asia as a guide. For each of the two groups of stabilization plans, we discuss its main features, benefits, costs,

and preconditions for their successful adoption following the plan below (Figure 22). Then, we present some stylized facts on the conditions in which they were adopted, their effects on inflation and other macroeconomic variables, and their duration. We conclude the section with some key lessons that can be drawn from other countries' experience, including conflict states, and how these lessons could be useful when designing a stabilization plan for South Sudan.

Figure 22

Exchange-Rate Stabilization (ERBS) vs Monetary-Based Stabilization (MBS)

Exchange-Rate-Based Stabilization (ERBS)	vs	Money-Based-Stabilization (MBS)
Choice of Nominal Anchor to Stabilize the Economy		
<p data-bbox="237 454 748 504"><b>From soft pegs to hard pegs and dollarization</b></p> <div data-bbox="459 539 528 613" style="text-align: center;">  </div> <p data-bbox="421 629 566 660"><b>Main Features</b></p> <ul data-bbox="237 728 748 1003" style="list-style-type: none"> <li>• Inflation falls gradually and converges to the rate of devaluation</li> <li>• Initial expansion of real economy followed by a later contraction</li> <li>• Real appreciation of the domestic currency</li> <li>• Deterioration of the trade balance and current account deficit</li> <li>• Ambiguous impact on real interest rates</li> </ul>		<p data-bbox="844 454 1355 504"><b>Monetary or inflation targeting</b></p> <div data-bbox="1054 539 1123 613" style="text-align: center;">  </div> <p data-bbox="1016 629 1161 660"><b>Main Features</b></p> <ul data-bbox="844 728 1355 965" style="list-style-type: none"> <li>• Inflation falls gradually and converges to the rate of growth of the money supply</li> <li>• Initial contraction in economic activity</li> <li>• Real appreciation of the domestic currency</li> <li>• No definite impact on the trade balance and current account</li> <li>• Initial increase in real interest rates</li> </ul>
<div data-bbox="445 1137 549 1211" style="text-align: center;">  </div> <p data-bbox="448 1227 539 1258"><b>Benefits</b></p> <ul data-bbox="237 1323 748 1458" style="list-style-type: none"> <li>• Good alternative for countries that lack credibility in their monetary policy</li> <li>• Expected to induce monetary and fiscal discipline</li> <li>• Reduces exchange rate risks</li> </ul>		<div data-bbox="1040 1137 1144 1211" style="text-align: center;">  </div> <p data-bbox="1043 1227 1134 1258"><b>Benefits</b></p> <ul data-bbox="844 1323 1355 1525" style="list-style-type: none"> <li>• Allows for independent inflation goals based on own monetary policy path</li> <li>• Foreign shocks not transmitted to domestic economy through inflation</li> <li>• Flexibility to respond to domestic shocks using monetary policy</li> </ul>
<div data-bbox="464 1644 533 1718" style="text-align: center;">  </div> <p data-bbox="437 1733 550 1765"><b>Challenges</b></p> <ul data-bbox="237 1830 748 1933" style="list-style-type: none"> <li>• Loss of monetary policy independence</li> <li>• Speculative attacks risk</li> <li>• Fragility risk especially in developing countries</li> </ul>		<div data-bbox="1058 1644 1126 1718" style="text-align: center;">  </div> <p data-bbox="1031 1733 1144 1765"><b>Challenges</b></p> <p data-bbox="844 1830 1082 1861">Stringent preconditions :</p> <ul data-bbox="844 1865 1355 2000" style="list-style-type: none"> <li>• Independence of Central Bank</li> <li>• Ability of Central Bank to effectively control monetary aggregates</li> <li>• Sustainable fiscal discipline</li> </ul>

## 2.2 Exchange-Rate-Based Stabilization (ERBS) plans

**54. An ERBS takes place when the central banks commit to a predetermined path for the exchange rate in the future.** In the extreme case, the path could entail that the exchange rate remains fixed at a specific value over time. The exchange rate acts as a nominal anchor by pinning down the price of internationally traded goods. In a small open economy, the price of tradable goods is equal to the international price of these goods multiplied by the exchange rate. Thus, by controlling the exchange rate, the price of tradable goods becomes an anchor that can help keep inflation in check (Dornbusch and Fischer, 1986; Mishkin, 1999; Corbo, 2002). Moreover, in very high inflation scenarios, exchange rate tends to be used as an indexation mechanism to set prices and wages. Thus, anchoring this variable is a reasonable mechanism to stop inflation (Dornbusch, 1986). But it is important to determine an adequate exchange rate for fixing the currency.

**55. Soft pegs.** ERBSs differ depending on how committed is the central bank to maintaining the peg (Frenkel and Rapetti, 2010). On the one hand, a country can adopt a “soft peg” in which the central bank publicly announces a future path for the exchange rate but has no legal mandate that binds it to follow the path. A soft peg can include, for example, an announcement by the central bank to intervene in the exchange market to maintain the exchange rate at a certain level or within a specific band, or a crawling peg in which the central bank pre-announces the rate of devaluation of the exchange rate over time.

**56. Hard pegs.** On the other hand, a country can opt for a “hard peg”. In this case, the central bank is given a legal mandate to sustain the peg.

A hard peg can take the form of a *currency board* in which a country passes legislation that fixes the exchange rate at a determined parity. A currency board consists of three features: (i) an exchange rate that is fixed to a foreign currency<sup>27</sup> (typically a hard currency, such as the U.S. dollar), (ii) a promise by the central bank to exchange domestic currency for foreign currency, and vice versa, at the predetermined exchange rate whenever desired, and (iii) a guarantee that the system will be maintained in the long term (for example, by including a legal mandate in the central bank law). For a currency board to be sustainable and credible, the central bank must hold foreign exchange reserves (measured in domestic currency at the fixed exchange rate) for at least 100 percent of the money base in order to assure the public that every bill in circulation is backed by foreign currency (Enoch and Gulde, 1998).

In the extreme, a country could directly opt for a full-fledged *dollarization* of the economy, in which the domestic currency is abandoned and is entirely replaced by a hard currency (see Box 5 for more on dollarization). There are certain advantages of choosing a hard peg, or an exchange rate anchor: (i) easy implementation: as it provides a simple and transparent target for policymakers; (ii) greater

<sup>27</sup> A credible and clear policy that pins down the currency exchange, be it gold standard or another stable currency, has helped. In the case of Germany, for instance, it was the adoption of the gold standard system that brought down inflationary pressures. Following Germany, many other European countries accepted to peg their currency against gold as a strategy for curbing inflation. These countries include Austria (1923), Poland (1924), and Hungary (1925). Since the abandonment of the gold standard at the outbreak of WWI and the Bretton Woods Conference following WWII, several countries have managed to stabilize their currency by pegging their local currency to a major convertible currency.



exchange rate stability, which encourages trade and foreign investment; and (iii) greater verifiability by market participants as it allows for easier judgement on whether the target is being achieved ex post and thus may permit a more rapid convergence of agents'

expectations to the desired long-run level targeted by policymakers. For these reasons, adoption of hard pegs has in many instances been successful in stabilizing inflation from historically high levels.

#### Box 6

#### Advantages and disadvantages of dollarization

**Advantages associated with dollarization.**<sup>28</sup> Dollarization (i) resolves the problem of credibility and hence promotes macroeconomic stability, with declining inflation and interest rates; (ii) eliminates the risk of depreciation of the domestic currency, a factor that contributes to accelerated inflation; (iii) lowers the currency risk premia associated with depreciation and hence improves access to international capital markets (Berg and Borensztein, 2000) and lower information costs (Calvo 2002); (iv) eliminates transaction costs of currency exchange to the anchor currency (Fischer 1982; De Grauwe 2000) and reduces financial fragility (Hausmann et al., 1999); and (v) enhances fiscal discipline by eliminating the possibility of monetization of fiscal deficits (Fischer 1982; Eichengreen 2001) and by motivating the government to either look for alternative sources of revenue or reduce expenditures.

**Disadvantages to dollarization.** These include: (i) loss of the option to print money, influence the economy, including the right to administer monetary policy and any form of exchange rate regime; (ii) loss of the central bank's ability to collect seigniorage revenue, which is instead collected by the U.S. This could be as high as 7% of GDP (Bogetic, 2000); (iii) loss of the central bank's role as the lender of last resort for its banking system; and (iv) need to buy back securities in U.S. dollars, implying that the country would have to collect enough reserves or run a current account deficit.

Early empirical work on fully or partially dollarized economies suggests that for a given fiscal deficit, dollarization exacerbates the resulting inflation rate, and increases the volatility of inflation and exchange rates (Rojas-Suarez, 1992; McNelis and Asilis, 1992; Akçay, Alper and Karasulu, 1997). Several studies confirm that the exchange rate pass through on inflation is higher for dollarized economies (e.g. Reinhart, Rogoff and Savastano, 2003). For instance, Kavila and Roux (2016) find that a post-dollarization in Zimbabwe one percent increase in South African inflation resulted in a 0.3 percent increase in inflation in Zimbabwe. Similarly, a one per cent appreciation in the South African rand against the US dollar induced a 0.1 per cent increase in inflation in Zimbabwe.

<sup>28</sup> Bogetic (2000); Chang (2000); LeBaron and McCulloch (2000), offer different perspectives on the costs and benefits of official dollarization.

**57. ERBS seem to have a high record of success in hyperinflationary situations.**

Successful stabilization programs in high inflation countries have involved a paradigm shift in policy. These covered fairly broad-based reform agendas, including not just fiscal and monetary tightening but also institutional changes that sought to restore confidence and establish credibility of these reforms. Such programs can potentially snaffle inflation and also help in a rapid recovery of output.<sup>29</sup> Empirical evidence across 30 inflationary episodes in 24 countries over the period 1980 - 2005, studied by Coorey et al. (2007) suggest that stabilization programs have successfully helped in reducing median annual inflation from a peak of about 1,600 percent to 180 percent within 12 months after the peak and simultaneously supported output recovery within the first or second year of stabilization. The median output decline slowed significantly, from some -7 percent to about -0.5 percent, in the first year of stabilization and positive output growth in the second year of stabilization.<sup>30</sup>

**58. Countries generally opted for ERBS when suffering relatively high inflation rates.**

A possible explanation why countries with relatively high inflation chose ERBS could be that the higher inflation is, the lower is the confidence that the central bank can pursue an independent monetary policy. Thus, an ERBS may be a more appealing option than an MBS, as the probability that the latter would succeed was lower (Stein et al., 2000). Furthermore, in Latin America ERBSs used to be more credible than MBSs and, as a result, after they were announced they tended to lead to a larger drop in inflation inertia (Prazmowski and Sanchez-Fung, 2014). (See Annex 3 for Latin America's experience with ERBS).

**59. Conventional wisdom sustains that ERBS is followed by “boom-bust” cycles,** in which an

initial expansion of the economy is followed by a recession. This pattern contrasts with MBS, which first generates a recession and then a boom of the economy (Kiguel and Liviatan, 1992; Calvo and Vegh, 1994, 1999; Reinhart and Vegh, 1994). The initial expansion in GDP growth could have several potential explanations.



*Inflation stickiness* can explain the initial expansion in GDP growth. A decrease in the devaluation rate is expected to lower nominal interest rate through the interest rate parity condition. If inflation expectations were sticky, then a lower nominal interest rate but unchanged inflation expectations would lower the real interest rate, stimulating aggregate demand (Rodriguez, 1982).



*Lack of credibility* could have also explained this behavior (Calvo and Vegh, 1993). If households expected the stabilization plan to be abandoned and, thus, the exchange rate to depreciate, they would have preferred to consume in the early stages of the plan (when the peg kept nominal interest rates low) rather than later (when the exchange rate would be devalued and nominal interest rates would be high). The drop in inflation is smaller the lower the credibility of the program. In fact, under lack of credibility, inflation inertia may easily occur. (Shahnawaz, 2006).



*Wealth effects* associated with the reduction of the inflation tax and an expected decrease in government expenditure related to higher

<sup>29</sup> See, for instance, Bruno et al. (1991) for a review of several inflation stabilization reforms.

<sup>30</sup> Sargent, (1982); Fischer, Sahay, and Végh, (2002); Easterly, (1996). In Sub-Saharan Africa, countries with hard pegs have lower inflation and a more favorable fiscal position - see Bleaney and Francisco (2016).

fiscal discipline could have also boosted consumption and growth in the early stages of these plans (Helpman and Razin, 1987; Drazen and Helpman, 1988).

**60. Benefits of ERBS.** There are several benefits that a country could attain from implementing a stabilization plan that relies on the exchange rate.



First, *ERBS can be a good alternative for countries that lack credibility in their monetary policy.* For countries without an independent monetary policy, implementing a stabilization plan that relies on controlling the amount of money can be problematic because political pressures might sooner or later induce monetary policy to deviate from its target and over-expand, compromising the sustainability of the plan. Moreover, even if authorities comply with the announced path of monetary policy, lack of credibility might induce economic agents to believe that the monetary policy will deviate in the future and, thus, fail to lower their inflation expectations. In this context, ERBS can help countries “import” credibility from abroad. When the exchange rate is fixed, the inflation rate of tradable goods will be equal to the inflation rate of these goods in the foreign country to whose currency it is pegged. Thus, domestic inflation will be linked to the path of inflation in the foreign country.



Second, *ERBS is expected to induce monetary and fiscal discipline.* On the monetary side, ERBS can eliminate incentives to pursue an expansionary monetary policy that fuels inflation. Under exchange rate targeting, the monetary policy of the central bank becomes endogenous: it has to buy and sell currency to maintain the exchange

rate at the announced level. On the fiscal side, a collateral effect of ERBS is that it is expected to promote fiscal discipline because fiscal deficits could threaten the long-term sustainability of the peg. A lax fiscal policy would eventually lead to the increase in money supply. This excess in the money supply would have to be withdrawn from the economy by the central bank selling foreign currency, which would decrease the foreign exchange reserves and reduce the ability of the government to sustain the peg.



Third, *this type of stabilization plan reduces exchange rate risk because the future changes in the exchange rate are known beforehand.* Through the interest rate parity condition, this reduces interest rates. Likewise, lower exchange rate risk increases incentives of foreign investors to lend in foreign currency. Fourth, compared to the money supply, using the exchange rate as a nominal anchor is simpler and clearer. The exchange rate is a variable that the public can easily understand and monitor daily to check whether the government is complying with the target. (Mishkin, 1999; Velasco, 2000; Mishkin and Savastano, 2001).

**61. Challenges of ERBS.** Despite its benefits, some of the strengths of ERBS are also its weaknesses.

- Loss of independent monetary policy also means that a country cannot use a monetary expansion to respond to negative shocks and boost economic activity. In a context of nominal wage rigidity, negative shocks could generate unemployment because the fixed exchange rate prevents depreciation of real wages (Schmitt-Grohe and Uribe, 2011).
- Likewise, inability to conduct an independent monetary policy could restrict the ability

of the central bank to act as a lender of last resort (Mishkin and Savastano, 2001). However, some countries have overcome this limitation by establishing emergency liquidity funds to assist banks with liquidity problems (for example, this is the case of Ecuador).

An additional problem is that *countries with a fixed exchange rate are prone to speculative attacks*. Speculative attacks can arise when the government combines a fixed exchange rate with monetization of fiscal deficits. The increase in money supply would return back to the central bank through the purchase of foreign currency by the public. As a result, foreign reserves would diminish. When the level of foreign reserves is low enough that the peg cannot be sustained, agents could conduct a speculative attack that would force the central bank to abandon the peg (Krugman, 1979; Obstfeld and Rogoff, 1995). Even when the economy has no fundamental problems, speculative attacks can still occur because expectations that the peg can be abandoned in the future could trigger a run on the currency that could drain foreign exchange reserves and force the government to abandon the peg (Obstfeld, 1986).

Furthermore, *pegging the exchange rate can produce financial fragility in developing countries*. Lower interest rates and increase in foreign financing produced by a reduction in exchange rate risk could result in an increase in foreign debt by governments, firms, and, even, banks. In this scenario, an abandonment of the peg and a depreciation of the currency would deteriorate the balance sheet of the banking sector: foreign-currency liabilities increase in value (measured in domestic currency) while assets and revenues remain flat. As the debt burden increases, government and firms have difficulty meeting their obligations and might even default on their debt (Mishkin, 1998).

**62. It is often argued that currency boards and dollarization could help reduce some of the costs of ERBS.** For example, by eliminating domestic currency, dollarization prevents speculative attacks. A similar argument has been made about currency boards: if the central bank has enough foreign reserves to cover the stock of currency in circulation, there would be no incentive for speculators to attack the peg because the central bank would have enough resources to defend it. Another alleged advantage of dollarization and currency boards is that, compared to soft pegs, they could induce more fiscal discipline. These programs legally bind the central bank from printing money to finance fiscal deficits. Thus, they need strict fiscal discipline to be sustainable over time. Furthermore, the stronger commitment implied in dollarization and currency boards increase exit costs, which raises credibility.

**63. In some cases, the potential ERBS benefits might not materialize, particularly when the economy is subject to extreme shocks** (see Annex 3 for details). Currency boards can be subject to speculative attacks because, even if the central bank has enough reserves to sustain the peg, in the event of an actual attack it might not be willing to exhaust its foreign reserves to sustain it (Kasa, 1999). Moreover, in some cases dollarization and currency boards have not induced higher fiscal discipline because the government could obtain funding from domestic and international debt markets. In addition, currency boards might be abandoned easier than expected by, for instance, issuing quasi-monies (Goldfajn and Olivares, 2001; de la Torre et al., 2003).

**64. Preconditions for successful ERBS plans.** In order to mitigate its potential costs, countries might want to satisfy certain requirements before putting in place an ERBS. Countries could benefit from pegging their currency to a country that is subject to similar real shocks and has a similar preference for inflation. Financial discipline is another important precondition because

fiscal deficits can undermine the success of the program over time and trigger speculative attacks. Moreover, countries seeking to adopt these types of plans are advised to first consider implementing labor reforms that increase flexibility of the labor market and allow nominal wages to adjust rapidly when negative shocks occur. In addition, because

under a peg central banks cannot conduct an independent monetary policy and, thus, the ability to act as a lender of last resort is limited, countries adopting exchange rate targeting would benefit from a sound and well-regulated financial sector (Velasco, 2000).

## 2.3 Money-Based Stabilization (MBS) plans

### 65. Money targeting and inflation targeting.

MBS traditionally consisted in the government setting a predetermined path for the growth rate of money supply in the future. By controlling the money supply in the economy, the government can indirectly control the eventual equilibrium price level and, thus, inflation. More recently, directly targeting the inflation rate rather than indirectly fixing prices through the quantity of money has also become an extended practice in MBS.<sup>31</sup>

### 66. To curb inflation, central banks can limit the money supply.

A central bank can maintain low and steady inflation by keeping the money supply growth rate low and steady. A key assumption underlying this approach to monetary policy is that the money demand function is stable and the country under consideration operates under a flexible exchange-rate system so that the central bank can acquire the maximum possible control over the money supply. The greater the central bank's control over the money supply, the more accurately it can calculate and target the rate of monetary growth necessary for price stability.

### 67. In a developing country context, monetary targeting comes with multiple responsibilities.

In a strict monetary targeting, the main objective of the central bank is to maintain price stability. However, given the multiplicity of problems in developing economies, monetary targeting is loaded with responsibilities. For instance, with the aim of making monetary policy more effective, Bangladesh instituted this policy framework after moving to a managed float regime in 2003. The monetary authorities were responsible for establishing not only price stability and economic growth but also nominal exchange-rate stability (Hossain, 2010). Overall, it remains unclear how the already capacity constrained central banks in developing countries can maintain exchange-rate stability while maintaining the required control over the money supply. The thrust of monetary targeting is to maintain the broad monetary aggregate at a pre-determined level, which is estimated on the basis of an expected increase in real output and a "tolerable rate of inflation". The multiple set of objectives and the lack of direction on how to achieve these objectives through monetary policy may make it

<sup>31</sup> In this note we consider inflation targeting as a specific case of money targeting stabilization plans. The theoretical literature typically analyzes them as different types of stabilization plans (see, for example, Mishkin 1999 or Corbo, 2002). However, in empirical papers, this distinction is not made (see, for example, Kiguel and Liviatan, 1992, Reinhart and Vegh, 1994, and Calvo and Vegh, 1999). We opt for the latter option because looking at their characteristics inflation targeting is essentially a monetary targeting plan with additional features. In fact, many countries that have started with monetary targeting, over time refined their plans and transitioned toward inflation targeting.



# All stabilization plans need a nominal anchor to lower inflation

difficult for monetary authorities to maintain price stability. This has been the case with Bangladesh where monetary targeting has been met with moderately high and volatile rates of inflation over the past four decades (Hossain, 2009, 2010).

**68. Inflation targeting does not require the central bank to follow a mechanic rule but, instead, to use all the available information and instruments to achieve the inflation target** (Mishkin, 1999). Typically, inflation targeting is achieved through the use of different monetary policy rules, which guide the conduct of monetary policy (Svensson and Woodford, 2004). In their most simple form, these rules consist in the central bank mechanically setting a value for an instrument variable (for example, the interest rate) based on the information available. The most popular rule of this kind is the Taylor rule, in which the central bank sets the interest rate depending on the deviation of the inflation rate and the output level from their desired level (Taylor, 1993). More complex rules are the “targeting rules.” These rules imply designing loss functions that increase their value when the deviations of the target variables from their desired target levels are larger. The role of the central bank is to minimize this loss function (Svensson, 2002).

**69. Tough preconditions for MBS through inflation targeting.** Inflation targeting requires a certain level of preparedness with respect to the depth of the financial systems so as to have a well-developed monetary policy transmission mechanism (for example, through the interest

rate channel). It also requires a certain level of exchange-rate stability such that monetary policy intervention in the foreign exchange market can be used as a channel for targeting inflation rates. Furthermore, developing economies that lack institutional maturity (such as central bank independence, fiscal discipline and financial sector development) and consistency of macroeconomic variables (e.g. exchange rate gap, output gap and trade openness) may end up with poor performance on inflation targets when using inflation targeting (Bernanke and Woodford, 2005; and Mishkin, 2000, 2004; Hove et al., 2017). Finally, economic growth should not be a concern for the country targeting inflation because sometimes it is not feasible to couple the two objectives.

**70. MBS are predicted to generate a “boost – boom” cycle.** A noticeable difference between MBS and ERBS is that the former seemed to have reduced inflation more gradually. Whereas ERBS generates a boom-bust cycle, MBS are predicted to cause instead a “bust-boom” cycle. The implementation of these programs is typically followed by an initial contraction of economic activity. The tightening of monetary policy increases interest rates and reduces aggregate demand, reducing output as well. After the initial contraction, the economy rebounds and growth resumes (Kiguel and Liviatan, 1992; Calvo and Vegh, 1994, 1999; Reinhart and Vegh, 1994) (see Annex 4 for details on Latin America’s experience with MBS).

**71. The presence of oil revenues as major source of foreign reserves adds another layer of complication.**

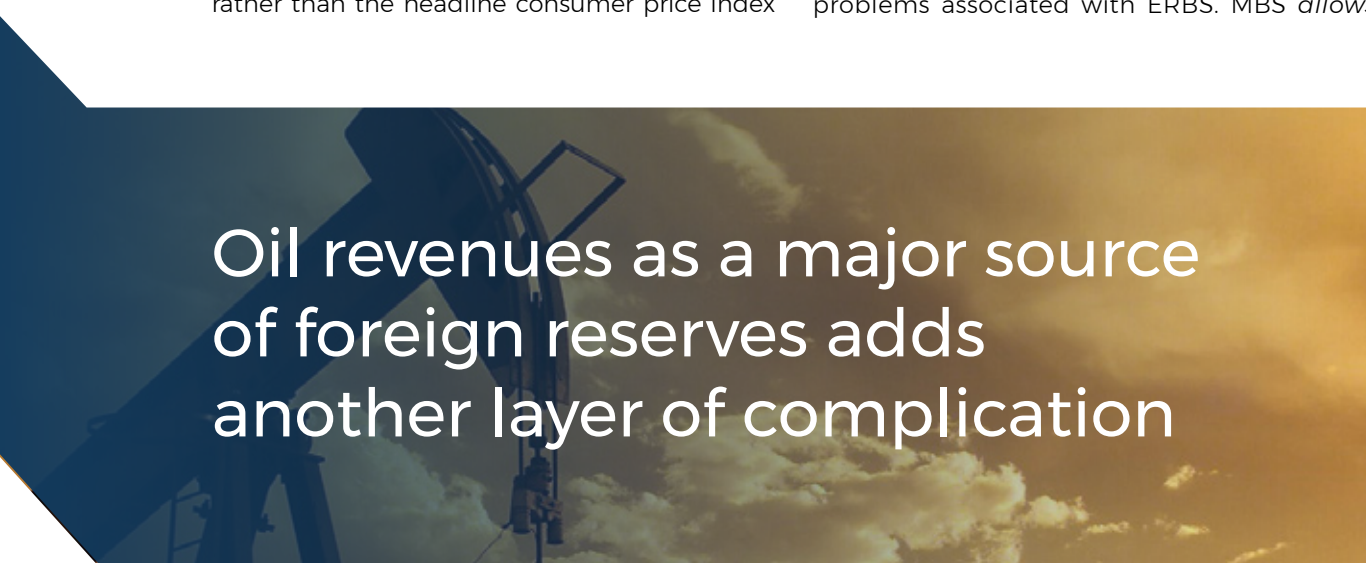
There are examples of countries dependent on oil exports that have successfully maintained over time their MBS. In Latin America, examples are Colombia and Mexico, which depend heavily on oil exports and have MBSs in place since 1999 and 1995, respectively. However, implementing MBS poses some additional challenges to different countries. For example, oil-producing countries react differently to shocks to the price of oil. Whereas in non-exporters an increase in oil prices boosts production costs and decreases output, in exporters these negative effects might be compensated by a positive wealth effect due to higher revenues from oil exports. Thus, it has been proposed that oil-producing countries could benefit from following different monetary rules than the rest of the countries. For example, a Taylor rule that reacts to consumption rather than output gaps might be welfare increasing for these countries (Romero, 2008).

**72. An additional concern for oil-exporters is the choice of the price index that needs to be targeted.**

Traditionally, the literature has argued that central banks are advised to target the core rather than the headline consumer price index

(CPI). The argument is that by excluding energy and food products, which are subject to temporary price shocks, core CPI provided a better measure of inflation. However, for commodity exporters targeting the core CPI might not be the best alternative. These countries export energy and food products so the core CPI mainly reflects the price of imported goods whereas it excludes exported goods. As a result, in the event of negative terms of trade shocks, the central bank would react by tightening monetary policy to curtail the rise in the CPI, which would appreciate the exchange rate. In other words, commodity exporters would be appreciating its currency when the terms of trade are worsening. Thus, these countries could benefit from targeting an output-based price index, such as an export prices index or an index of domestically produced goods (Frankel, 2011). Among the alternative monetary policy rules analyzed for the case of Algeria,<sup>32</sup> Allegret and Benkhodja (2015) find that in the presence of real external shocks, headline inflation targeting<sup>33</sup> may lead to excessive volatility of real macroeconomic variables, core inflation monetary rule allows the best combination in terms of price stability and low volatility of production.

**73. Benefits of MBS.** MBS can fix some of the problems associated with ERBS. MBS *allows*



## Oil revenues as a major source of foreign reserves adds another layer of complication

<sup>32</sup> These are a fixed exchange rate rule, a headline inflation targeting rule, and a core inflation targeting rule.

<sup>33</sup> In this case the central bank targets only the deviation of the CPI inflation rate relative to its steady state equilibrium

*countries to pursue independent inflation goals.* Unlike ERBS in which countries import inflation from abroad, countries under an MBS can design the path of monetary policy in order to achieve their desired inflation rates. This also implies that *foreign shocks would not be transmitted to the domestic economy through inflation.* Moreover, MBS gives governments certain *flexibility to respond to domestic shocks using monetary policy.* Under an MBS, a country suffering a negative shock can use monetary policy to depreciate the value of the currency, lower real wages, and stimulate output. However, the use of this instrument is somewhat limited because too much monetary expansion might lead to deviations from the target.

**74. Nevertheless, MBS also poses some challenges to policymakers.** For a successful adoption of an MBS, the *central bank has to be independent* from any political influence and have the capacity to implement a monetary policy consistent with controlling inflation. In addition, *the central bank should effectively be able to control the targeted monetary aggregates.* While the central bank can easily control the monetary base, this does not necessarily imply it can control larger aggregates such as M2 or M3. Another important precondition for MBS is that the *relation between the money base and inflation needs to be somewhat stable.* If the money demand is often subject to unpredictable and large shocks, then targeting the money supply might not generate the expected inflation objectives. This can be particularly problematic in countries that are shifting from high to low inflation regimes. When inflation is reduced, the relation between money supply and inflation that was valid during the high inflation environment might no longer hold. As a result, predicting the money demand can be difficult (Mishkin, 1999; Corbo, 2002). Furthermore, as with ERBS, MBS needs fiscal discipline to be sustainable over time. A country that runs fiscal deficits financed by monetary expansion would have difficulty in

complying with the money growth rate targets. In addition, compared to targeting the exchange rate, the public might not easily understand what money targeting means. Not only the data on monetary aggregates is less direct and clear to interpret than the exchange rate but also the public has to comprehend the relation between monetary supply and prices.

**75. Compared to targeting the amount of money, targeting inflation has additional advantages but also higher challenges.** The main advantage of inflation targeting is that it does not require the demand for money to be stable. The central bank is not committed to follow any rule regarding the growth of the money supply and, thus, has the flexibility to adjust this variable in the face of shifts in the money demand without generating any suspicion in the public that the target has been abandoned. Moreover, using inflation as the target helps overcome the problem that targeting the amount of money might be less transparent and confusing.

**76. Even if desirable, inflation targeting is not feasible everywhere.** Inflation targeting is much easier to implement in countries with high credibility and a strong institutional framework. Under inflation targeting, the central bank does not follow a predetermined rule as in the traditional MBS or ERBS. Instead, it has the autonomy to use all the monetary policy instruments at its disposal to achieve the inflation target. In this sense, inflation targeting grants more discretion to the central bank. The counterpart of giving more freedom to the central bank is that the public needs signals that the policies of the central bank are driven toward complying with the inflation target. Thus, the central bank needs to have a strong legal mandate that sets price stability as its primary goal. Also, it requires having adequate resources and instruments at its disposal to fulfill this goal. In addition, the central bank needs to have a strong informational framework. This framework could include frequent

communication with the public to disclose not only the inflation targets but also how they will be achieved, as well as the medium-term views on monetary policy and inflation. Furthermore, the central bank could be held accountable when the targets are not met (Mishkin, 1999).

**77. The monetary transmission process required for money targeting to work may not be fulfilled in Sub-Saharan Africa.** The traditional monetary transmission mechanism working through

the interest-rate channel and the demand for money may not work in an African context due to underdeveloped financial systems and weak interest-rate responsiveness of aggregate spending (Khan, 2011). Several studies have shown that instability of money demand is particularly common to developing countries undergoing processes of financial liberalization, like those in Sub-Saharan Africa, yet even industrialized countries are not immune (e.g. the case of Germany studied in Mishkin and Savastano, 2000).

## 2.4 Country experiences

**78. Examples of ESRB soft pegs in Latin America include, among others, the *tablitas*<sup>34</sup>** adopted by Argentina, Uruguay, and Chile in the late 1970s; the Pacto in Mexico between 1988 and 1994 which alternated between a fixed exchange rate, a crawling peg, and an exchange rate band; the exchange rate band regime in Uruguay that was in place from 1990 to 2001; and the fixed exchange rate regime known as the Real Plan in Brazil between 1994 and 1998 (see Annex 3 for more details).

**79. A currency board has helped tackling the inflationary situation in several countries,** such as Bosnia and Herzegovina, Argentina, Estonia, and Lithuania. In the case of Argentina, for instance, the currency board was widely viewed as providing the needed monetary stability after a long history of monetized fiscal deficits, high inflation, and low and volatile growth. Nonetheless, the long term value of a currency board is questionable as it

sacrifices the ability to use the exchange rate as an adjustment tool and constrains the authorities' ability to alter monetary policy, with the potential of creating inconsistencies between monetary and fiscal policies and/or pro-cyclical monetary conditions. Moreover, the currency board arrangement is likely to remain viable as long as there is sufficient political will to subordinate fiscal policy to maintaining the peg—in the sense of having a “money dominant” regime. This is a hard position to maintain. The high level of public indebtedness in post stabilization years in Argentina suggests that it slipped back into a “fiscal dominant” regime, thereby dooming the currency board arrangement. Thus, although a currency board can have specific temporary advantages, irrespective of a country's economic structures—such as achieving disinflation—it is important to allow for flexibility to exit the arrangement in time before market pressures make it untenable.<sup>35</sup>

<sup>34</sup> The *tablitas* were popular stabilization plans in the late 1970s in the Southern Cone. Their name comes from the charts (“tablas” in Spanish) that the government made public and that contained the projected evolution of the daily official exchange rate over time.

<sup>35</sup> For example, a hard peg in Argentina did secure credibility through 2000 as it enabled it to borrow from the capital markets at spreads that did not fully reflect the risks. Although this insulated the country temporarily from adverse market reactions to unsustainable policies, nonetheless it ultimately led way to a much bigger disaster.



**80. Dollarization has helped several countries emerge from monetary crisis.**

The Zimbabwean hyperinflation crisis of 2007, ended abruptly when the country gave up the local currency and adopted a multicurrency system in 2009. Dollarization weakened parallel market activities and arbitrage opportunities, and dissipated inflationary pressures.<sup>36</sup> Real GDP rose from 5.4 per cent in 2009 to 9.6 per cent in 2010, 10.3 per cent in 2011 and 4.4 per cent in 2012 (Kavila and Roux, 2016). Overall, dollarization played a dominant role in contributing to macroeconomic stability in the country (Sikwila, 2013). In Ecuador, full dollarization occurred in the midst of an economic and banking crisis (Quispe-Agnoli and Whisler, 2006) and helped the country get back on track. (see Box 4 for more on dollarization including pros and cons of such a stabilization plan).

**81. Ecuador's experience with dollarization can provide useful guidance to South Sudan.**

When Ecuador implemented dollarization in 2000, the country was in a similar condition than South Sudan today. In 1999, inflation in Ecuador was above 60 percent whereas the domestic currency had lost more than 60 percent of its value. Moreover, the fiscal deficit surpassed 5 percent of GDP and debt exceeded 100 percent of total GDP. Furthermore, banking sector deposits were frozen, and 16 financial institutions had failed (IMF, 2006; de la Torre and Mascaro, 2011). Another common feature between Ecuador and South Sudan is that both countries are major oil exporters.

**82. Shortly after dollarization the main macroeconomic variables of Ecuador started to improve.**

By the end of 2000, inflation started to fall and converged to international levels. In addition, the volatility of interest rates and the RER had been reduced. As a result of higher macroeconomic stability, annual GDP had grown 8 percent in the first quarter of 2001 and remained

at an average of 4 percent in the subsequent years. On the fiscal side, Ecuador started to run fiscal surpluses, which helped reduce the debt burden. However, fiscal improvement did not seem to derive from greater fiscal discipline. Spending increased rather than decreased and the strong fiscal position was achieved mainly by an increase in oil revenues due to higher oil prices. Similar is the case of the external balance. The current account deficit was reduced but primarily due to higher oil exports and lower interest rates across the world. In other words, the good economic performance of Ecuador after dollarization seemed to be less related to this stabilization plan and more to external factors, namely the high price of oil (IMF, 2006; de la Torre and Mascaro, 2011). As external conditions recently worsened since 2014, the macroeconomic weaknesses of Ecuador were unveiled. The fall in oil prices contracted economic activity and output growth became negative. What made the adjustment harsher was that dollarization had limited the ability of the government to address the economic downturn. One alternative for the government could be to pursue a fiscal expansion that could expand aggregate demand and stimulate the economy. However, this would run contrary to the goal of sustaining dollarization and it would need to be financed somehow. The decrease in oil prices reduced government's revenues and, thus, made fiscal deficits higher, crippling its expansionary capacity. Another option for the government could be to stimulate exports by depreciating the RER. Ecuador has an appreciated RER due to the strengthening of the U.S. dollar, the increase in the price of non-tradable goods during the period of economic expansion, and Ecuador's trading partners depreciating their currencies. However, again dollarization limits the ability of the government to implement this alternative (IMF, 2015; de la Torre and Hidalgo Pallares, forthcoming).

<sup>36</sup> During 2009 to 2012, annual inflation averaged below 5 percent, and monthly inflation was, on average, less than 0.5 percent. Zimbabwe began to perform better than its counterparts in SADC, particularly in respect of inflation.

# A common feature of ERBS and MBS is that both require a **strong institutional framework** to be successful

**83. The situation in Ecuador shows that, whereas dollarization might not be the cause of economic problems, it restricts the options available to the government to deal with crises.** Thus, complying with the preconditions for a successful adoption of ERBS is highly recommended. Among these preconditions, fiscal discipline is of particular importance to countries whose fiscal policy depends on revenues from exports of natural resources, such as Ecuador or South Sudan. Negative shocks that reduce the price of exports could significantly lower revenues and produce fiscal deficits, which might compromise the sustainability of an ERBS. Countries could mitigate this weakness by establishing ex ante a stabilization fund, in which extraordinary revenues during good times are saved for bad times when prices drop. As a result, stabilization funds can, in the long run, allow countries to smooth government spending and avoid cutting expenditures during economic downturns (Sugawara, 2014).

**84. Since the first attempt on inflation targeting in New Zealand in 1990, many countries have adopted the MBS approach to curb inflation.** Several Asian developing counterparts, such as, Indonesia, the Philippines and Thailand have adopted inflation targeting after the Asian financial crisis of the late 1990s. In Latin America, there are several examples of MBS. For example, Mexico, between 1995 and 2000, and Peru, between 1990 and 1993, implemented MBSs that relied on the growth rate of money as the nominal anchor. Later on, both countries transitioned toward inflation

targeting. Mexico did so in 2001 and Peru in 1994. Other countries directly implemented an MBS that relied on inflation targeting, such as Chile since 1991, and Colombia and Brazil since 1999. All of these plans are still in place today (see Annex 4 for more details). Relative to ERBS, countries with lower inflation have opted for MBS.

**85. Countries' decision to adopt inflation targeting depends on several factors including their development stage.** In a high-income country, inflation targeting is motivated by the desire to maintain credibility on low inflation rates, especially under flexible exchange rate regime. In any case, the implementation of the inflation targeting rule requires certain preconditions, including the central bank's independence, especially relating to monetary policy, financial depth, the fiscal policy and position, and flexibility in interest rates and exchange rates (Amato and Gerlach, 2002; Eijffinger and de Haan, 1996; Hu, 2006). In the case of OECD countries, for instance, the low level of debts, high inflation rates, and flexible exchange rate have likely inspired the choice of inflation targeting (Goncalves and Carvalho, 2008, 2009). Unlike their developed country counterparts, the effect of high inflation rates on the choice of inflation targeting is insignificant in developing countries. Furthermore, low-income or developing countries with a large size of public debts are not likely to choose inflation targeting as fiscal fragility discourage monetary authority to adopt restrictive monetary policy under inflation targeting (Ismailov et al.,

2016).<sup>37</sup> This monetary regime works as a guide for inflation expectations and is associated with an increase in central bank transparency, which, in turn, increases accountability in the implementation of monetary policy and thus improves the central banks' credibility.<sup>38</sup>

**86. Irrespective of the selected stabilization plan, country experiences highlight the following key requirements to successfully curb high inflation:**

- | *Large fiscal adjustments have been a critical component of stabilization programs. A cross country study by Tsibouris et al. (2006) covering 165 countries from 1971 to 2001 confirms that countries embarking on large upfront fiscal adjustments were the most successful in coping with inflation. The study finds a median reduction in the primary fiscal balance of about 12.5 percentage points of GDP (ranging from 6.3- 29.9 percentage points of GDP) in one year. To give specific examples, in Nicaragua and Armenia primary fiscal deficit was adjusted by 23 and 9 percent points of GDP respectively within one year. In 1989, Poland was under severe risk of sliding into hyperinflation but the hyperinflation process stopped abruptly during the first quarter of 1990 and inflation rate fell from over 600% in 1989 to below 20% in 1996 due to debt-management policies in the macroeconomic stabilization package (Wijnbergen and Budina, 2001).*
- | *Which component of government expenditure should be curtailed? Fiscal spending that ensure food security,*

*health infrastructure, and social safety net protecting vulnerable groups, need to be prioritized, while some other heads such as the government wage bill, capital expenditures and subsidies to public sector enterprises can be reduced (e.g. Coorey et al., 2007). In the case of Poland, the success in taming hyperinflation in 1989 was achieved through a substantial reduction in the noninterest fiscal deficit, mainly achieved through tax reform, reduction of subsidies and renegotiation of external debt (Wijnbergen and Budina, 2001).*

- | *Fiscal consolidation needs to be accompanied by an elimination of quasi-fiscal activities. Reduction of quasi-fiscal activities (QFA) of the central bank and other public entities played a key role in fighting inflation in more than half of the countries in their sample (see Coorey et al. 2007). For instance, prior to stabilization, central banks in Bolivia, Croatia, and Macedonia provided financial support to loss-making state-owned enterprises. In Angola and Bulgaria, central banks were responsible for bailing out other banks in distress. In Zimbabwe, while the government reported a small primary surplus of around 2 percent in 2006, accounting for quasi-fiscal activities of the central bank shifted the adjusted primary balance to a deficit of almost 25 percent of GDP. To reduce the public financing requirements, any stabilization program must also involve a strict enforcement of discipline on state-owned enterprises through hard budget constraints.*

<sup>37</sup> Theoretically speaking, political institutions and stability should matter for adopting a particular monetary regime (perhaps by affecting the autonomy of central banks), there is absence of hard evidence on such factors being consequential for OECD countries (Goncalves and Carvalho, 2008) as well as in low-income countries (Ismailov et al., 2016).

<sup>38</sup> See, Svensson (1997), Mishkin (1999), Bernanke et al. (1999), Landarretche et al. (2001), de Mendonça and Simão Filho (2007), and Blinder et al. (2008).

Price and exchange rate regime liberalization was often a priority to succeed with fiscal and monetary stabilization (e.g. in Azerbaijan and Bolivia). Although liberalization may have contributed to a one-time increase in the price level, it helped allocate resource more efficiently and eliminated subsidies that fueled inflation. Finally, institutional

reforms such as improvements in the rule of law, reforms of the public sector, the central bank and the labor market were started immediately for instance in Nicaragua and Peru to make the stabilization package credible and increase the confidence of domestic and external investors. (Coorey et al. 2007).

## 2.5 Lessons for South Sudan

### 87. Which stabilization path for South Sudan?

Although there is a clear agreement that South Sudan needs to reform, vested interests and rent seeking behavior from political clout with access to foreign currency at the official rate are preventing or delaying the reform process. There is also a lack of agreement on the specifics of the reform to support lower inflation. For example, it is not clear whether the country would be most suited to adopt a currency board approach or a full dollarization or continue with a floating regime. Finally, reforming the monetary regime involves a major change in the economic environment, and a major shock for the economy. The uncertainty surrounding the impact may add to the reluctance of the reform process.

**88. Political will is critical to pursue any stabilization plan.** Peace and security remain a crucial precondition for any macro stabilization. Moreover, any reform plan requires credible

commitment to take concrete steps to address the economic issues. Effective programs have sequenced the initial stabilization programs with structural and institutional reforms. The latest economic and security developments in South Sudan seem to indicate that despite the urgent need for fiscal consolidation and exchange rate adjustment, the Government continues to focus on conflict-related policy choices that delay any meaningful reforms. Without clear political commitment any stabilization plan will be meaningless.

**89. Experiences with stabilization plans suggest that they vary in their speed at which inflation is reduced, the business cycle they create, and their sustainability over time.** Namely, when choosing a stabilization plan, policymakers are confronted with trade-offs regarding “speed vs. sustainability” and likely “recession now vs. recession later.” On the one hand, ERBS is very successful at reducing



inflation quickly, even in countries where inflation is exceptionally high. In addition, immediately after its implementation it creates an economic boom. However, over time the economic expansion is followed by a recession. The economic downturn, which might include a financial crisis, can trigger the collapse of the stabilization plan and the reemergence of inflation. As a result, ERBS is relatively short-lived, sometimes only being in place for four or five years before it is abandoned. On the other hand, MBS decreases inflation but only gradually while initially creating a contraction of economic activity. However, once this downturn is passed, economic growth returns and inflation continues to slow down. As a result, MBSs are more sustainable over time.

**90. A common feature of ERBS and MBS is that both require a strong institutional framework to be implemented successfully.** Whether the central bank is targeting the exchange rate, the growth rate of money, or the inflation rate, the monetary authority needs to send clear signals to the public that its main goal is to comply with the target. This includes, among others, that the central bank is independent, has a legal mandate to control inflation, is free from political pressures, and has adequate disclosure standards. If the public does not believe that the central bank is committed to fighting inflation, the stabilization plan will unlikely succeed. Another important precondition for the successful adoption of ERBS and MBS is fiscal discipline. A country that implements a stabilization plan but fails to

control fiscal deficits is more prone to pursuing an expansionary monetary policy. For countries under an ERBS, expansionary monetary policies would sooner or later lead to a fall in reserves that could force the central bank to abandon the peg. Likewise, in countries under an MSB, an increase in the money supply beyond the target would undermine the credibility of the central bank. In both cases, this will weaken the main pillar of the stabilization plan: the nominal anchor supposed to endure in the long term.

**91. The main challenge for developing economies, particularly for countries emerging from conflict, is to establish credibility of the chosen monetary regime through a nominal anchor.** The empirical evidence is not conclusive on whether this can be done more successfully through inflation targeting or a hard currency peg or a crawling peg with a narrow band. Monetary policy becomes more effective when the central banks are successful in leading inflation expectations and can credibly alleviate the traditional short-term trade-off between inflation and unemployment. The success of any monetary regime is directly associated with forward-looking behavior, which, in turn, highlights the relevance of credibility. This aspect is particularly relevant for developing and post-conflict economies (see Box 6). A strong and credible commitment to maintaining low inflation through any monetary regime credibility thus fosters an environment that stimulates output growth.





Does the choice of exchange rate regime matter for aid effectiveness in restoring macroeconomic stability?

Based on the experience of 38 countries emerging from war and conflict, Elbadawi and Soto (2013) suggest that post-conflict performances of the fixed and managed regimes were very similar, and were superior to that of a floating regime. While inflation was in single digits under the fixed and the managed floating regimes, it was more than 16 percent under the floating regime.

More in-depth empirical analysis confirms that in post-conflict economies, both the fixed and managed regimes have direct stabilizing effects on inflation. Aid does not seem to have a direct effect on post-conflict inflation under the fixed and managed regimes, while it was found to have a stabilizing impact under the floating regime.

Therefore, it seems that the free-floating exchange regime may not be appropriate for countries emerging from wars and conflict situations. The managed floating regime seems to have an edge on two critical areas of economic performance: (i) aid promotes post-conflict demand for money balances and (ii) the monetary reconstruction role of aid is likely to be more effective under this exchange rate regime.

Source: Elbadawi and Soto (2013)

**92. Under South Sudan's current managed floating exchange rate regime, a monetary policy regime (without an exchange rate anchor) would require an explicit and clearly understood alternative nominal anchor.** Theoretically, the country could initially implement a plan based on targeting the growth rate of money and then, over time, transition to inflation targeting. Compared to inflation targeting, using the growth rate of money as the nominal anchor can be implemented by a central bank with relatively less independence. Targeting the growth rate of money imposes some limits to the discretionary actions of the central bank because it requires this institution to follow a specific rule. The public can easily observe the compliance of this rule so any deviation would result in an increase in inflation expectations and the collapse of the plan. This suggested path was followed by some countries

in Latin America, such as Mexico or Peru, which started targeting the rate of money growth and after a few years moved to inflation targeting.

**93. If South Sudan decided to adopt MBS, it would need to ensure that the exchange rate regime is compatible with macroeconomic fundamentals and closes the gap between the official and the parallel rate.**



*The first challenge would be to deepen the foreign exchange market to make it more liquid for an adequate determination of the exchange rate. The challenge for the Bank of South Sudan (BSS) will be to supply the market without*

signaling an intention to defend a particular exchange rate level to maintain commitment to floating exchange rate. By limiting its participation to frequent or periodic interventions (daily or weekly) using transparent and market allocation mechanism such as auctions, the BSS could promote the development of the forex market. While an auction mechanism is already in place, challenges to determine the exchange rate remain.



*The second challenge would be to build an adequate system to monitor public and private sector exchange rate risk.* Since July 2015, the commercial banks' balance sheets are showing negative net foreign assets. With the 500 percent depreciation of the SSP in December 2015, the net foreign liabilities (negative net foreign assets) of the commercial banks has increased to more than four times their capital, representing a rather high exchange rate risk exposure. The BSS would need to enforce prudential requirements to safeguard the integrity of the banking system.



*The third challenge for the government would be to identify appropriate intervention measures in the foreign exchange market to ensure stability.* International experience shows that central banks could intervene in the exchange market when they detect exchange rate misalignment or judge volatility destabilizing. These interventions could be on a discretionary basis or regular, preannounced, and rule-based to support the information flow to the market and reduce noise. In the case of South Sudan, it seems that BSS will continue to supply the forex market with foreign currency because of its role as banker to a government that receives revenues from

oil, borrows from abroad and receives grants in foreign currency. The government has issued new guidelines for the implementation of the regulation on floating exchange rate regime instituting an auction mechanism that is in line with international standards. However, given the low level of foreign reserves, the government should be very selective in its interventions to build its credibility and promote market confidence.



*The fourth challenge would be to find an alternative nominal anchor for its monetary policy.* Despite the weak relationship between monetary aggregates and inflation, money targeting can serve as an alternative nominal anchor for monetary policy. Many countries shifting from a fixed to flexible exchange rate regimes have favored an inflation targeting framework over money targeting. Many of them adopted inflation targeting over long time horizons, taking the time required to fulfill the institutional requirements and macroeconomic conditions. It is too early for South Sudan to adopt inflation targeting, given the weakness of the financial sector and the low government capacity. Monetary targeting combined with tight coordination with fiscal policy would be a more appropriated framework. Reducing the central bank financing of the fiscal deficit should be an intermediary target of the monetary policy, and more appropriated than direct price administration.

**94. Considering the limited institutional capacity, the lack of independence of its central bank and significant credibility problems in recent history, it is highly unlikely that South Sudan has the capacity to follow an MBS.** Credibility issues associated high inflation, governance problems at the central bank, and fiscal dominance, as well as a low level of financial development and significant weaknesses in statistical databases (both

precluding reliable monitoring and forecasting of macroeconomic indicators) make MBS an unlikely choice at this stage.

**95. Another option would be to follow ERBS to curb inflation.** Given the high inflation in South Sudan and the lack of credibility of monetary policy, inflation is more likely tamed through a hard peg of South Sudanese dollar. The disadvantage of hard pegs is the loss of an autonomous monetary policy, but at the current state of institutional development in South Sudan such autonomy might not be beneficial. The key decision to make now is to identify the anchor currency. IMF (2010) suggests that this choice should be contingent on whether the anchor-currency country meets the criteria for an optimal currency area: (i) higher trade; (ii) symmetric shocks; (iii) higher labor mobility; and (iv) higher fiscal transfers within the region.

**96. If South Sudan decided to pursue the ERBS path, full dollarization may be the easiest to implement in the near term, both operationally and institutionally.** Dollarization may indeed be a stronger arrangement than a currency board, as it eliminates the risk of future currency crises and reduces the costs of international transactions. Credibility of dollarization can be boosted by political backing of the country whose currency is adopted and with an agreement on seigniorage sharing. A currency board could, in principle, impose a much stricter discipline on the monetary authority than dollarization, but given the history of governance problems with the Bank of South Sudan and the failure of an earlier fixed exchange rate regime, establishing the credibility of a currency board arrangement without externally imposed safeguards could be difficult. Further, more time might be needed to garner political support for adopting a central

bank and fiscal responsibility legislation consistent with international best practice. Also, ERBSs are typically short-lived because they are prone to runs on the currency and to RER appreciations that are corrected by devaluations. By eliminating the domestic currency, dollarization eliminates currency crises and increases exit costs. As a result, dollarization can be sustained over a longer period of time.

**97. Dollarization might help improve some of the macroeconomic weaknesses present in South Sudan.** Dollarization could eliminate the possibility to finance the fiscal deficits by printing money and, thus, could promote fiscal discipline. Moreover, the halt to discretionary monetary policy could help lower inflation expectations. In addition, the elimination of exchange rate risk might increase capital inflows, which could improve the external balance. An additional and important consideration is that dollarization is not irreversible and the government of South Sudan could decide to introduce a domestic currency and move toward an MBS if it desired. In practice, hard pegs, including dollarization, have proven to be easier to abandon than originally believed by, for example, issuing quasi-monies or official money accepted for tax collection (de la Torre et al., 2003). The experience of dollarization in Ecuador described in the previous section could be relevant for South Sudan.

**98. Upon stabilization, South Sudan would need to implement structural and fiscal reforms to enhance efficiency and to prevent recurrence.** Once the high inflation situation stabilizes, South Sudan should prepare to implement a broader set of structural and fiscal reforms along with price and exchange rate liberalization to prevent recurrence.<sup>39</sup> To unlock affordable credit lines from international capital markets, South Sudan

<sup>39</sup> The importance of structural reforms cannot be overemphasized even countries that do not have their own currency. For example, in crisis in Greece was fueled by the lack of supportive policies to keep the budget deficit under control, which undermined confidence in the country's ability to remain within the European Monetary Union.

needs to manage its public debt, improve export competitiveness and also offset the negative repercussions of the appreciation of the currency of the country from where it sources its imports against the US dollar. Attracting both debt and non-debt creating capital flows, notably foreign direct investment, would require supportive measures such as the alignment of the country's investment laws and procedures to international best practices, investor-friendly policies, better enforcement of rule of law and the respect of property rights. The government should also strive to improve its relations with the international community to deal with negative perceptions that have tended to increase the country's risk,

making borrowing from offshore sources very expensive, even for private sector entities.

**99. A key economic priority for the Government is to restore peace and security, implement urgent macroeconomic measures to reduce high inflation.** Dollarization may be the easiest to implement in the near term, both operationally and institutionally. Observed inflation over the last three months has considerably deteriorated purchasing power of households. If the macro-economic imbalances are not managed in an effective and timely manner, poverty could rise even further. In the absence of reforms South Sudan will spiral further towards being a failed state.

# References

- Broto, C., 2011. "Inflation Targeting in Latin America: Empirical Analysis Using GARCH Models," *Economic Modelling*, 28(3), 1424-1434.
- Bruno, M., 1991. "High Inflation and the Nominal Anchors of an Open Economy," *Princeton Studies in International Economics*, 183.
- Burki, S. and G. Perry, 1997. "The Long March: A Reform Agenda for Latin America and the Caribbean in the Next Decade," World Bank Latin American and Caribbean Studies.
- Calvo, G. and C. Vegh, 1994. "Inflation Stabilization and Nominal Anchors," *Contemporary Economic Policy*, 12(2), 35-45.
- Calvo, Guillermo A., and Carlos Vegh, 1993, "Exchange Rate-Based Stabilization under Imperfect Credibility," in H. Frisch and A. Wörgötter (eds.), *Open Economy Macroeconomics* (pp. 3-28), London: Macmillan.
- Calvo, G. A. and C. Vegh, 1999. "Inflation Stabilization and Bop Crises in Developing Countries," in J. Taylor and M. Woodford (eds.), *Handbook of Macroeconomics* (pp. 1531-1614), Amsterdam: North-Holland.
- Carey, K. and W. Harake, 2017. "Macroeconomic Environment and Policies in Conflict Remission Countries," background paper for joint United Nations - World Bank Prevention Study.
- Corbo, V. 2002. "Monetary Policy in Latin America in the 90s," in N. Loayza and K. Schmidt-Hebbel (eds.), *Monetary Policy: Rules and Transmission Mechanisms* (pp. 117-166), Santiago: Central Bank of Chile.
- de la Torre, A. and J. Hidalgo Pallares, forthcoming. "La Trampa que Asfixia a la Economía Ecuatoriana".
- de la Torre, A., E. Levy Yeyati, and S. Schmukler, 2003. "Living and Dying with Hard Pegs: The Rise and Fall of Argentina's Currency Board," *Economia - Journal of the Latin American and Caribbean Economic Association*, 3(Spring), 43-107.
- de la Torre, A. and Y. Mascaró, 2011. "La Gran Crisis Ecuatoriana de Finales de los Noventa," in *Temas de Economía y Política*, Tomo 20.
- Dornbusch, R. and S. Fischer, 1986. "Stopping Hyperinflation Past and Present," *Review of World Economics*, 122(1), 1-47.
- Dornbusch, R., 1986. "Inflation, Exchange Rates and Stabilization," *Essays in International Finance*, 165, pp. 1-24.
- Drazen, A. and E. Helpman, 1988. "Stabilization with Exchange Rate Management under Uncertainty," in E. Helpman, A. Razin, and E. Sadka (eds.), *Economic Effects of the Government Budget*, pp. 310-327, MIT Press.
- Elberg, A., V. Corbo, and J. Tessada, 1999. "Monetary Policy in Latin America: Underpinnings and Procedures," *Latin American Journal of Economics*, 36(109), 897-927.



- Enoch, C. and A.-M. Gulde, 1998. "Are Currency Boards a Cure for All Monetary Problems?" *Finance and Development*, 35(4), 40-43.
- Frankel, J. 2011. "A Comparison of Product Price Targeting and Other Monetary Anchor Options, for Commodity Exporters in Latin America," *Economia - Journal of the Latin American and Caribbean Economic Association*, Fall, pages 1-70.
- Frenkel, R. and M. Rapetti, 2010. "A Concise History of Exchange Rate Regimes in Latin America," UMASS Amherst Economics Working Papers 2010-01.
- Goldfajn, I. and G. Olivares, 2001. "Full Dollarization: The Case of Panama," *Economia - Journal of the Latin American and Caribbean Economic Association*, 1(Spring), 101-156.
- Goldfajn, I. and R. Valdes, 1999. "The Aftermath of Appreciations," *The Quarterly Journal of Economics*, 114(1), 229-262.
- Helpman, E., and A. Razin, 1987. "Exchange Rate Management: Intertemporal Trade-Offs," *American Economic Review*, 77(1), 107-123.
- IMF (International Monetary Fund), 2017. "Republic of South Sudan Staff Report for 2016 Article IV Consultation—Debt Sustainability Analysis"
- IMF (International Monetary Fund), 2006. "Ecuador: Selected Issues," IMF Country Report No. 06/103.
- IMF (International Monetary Fund), 2015. "Staff Report for the 2015 Article IV Consultation," IMF Staff Report, September 10, 2015.
- Jimenez, G., 2004. "Evaluating Inflation Targeting in Latin America," Unpublished paper, Universidad Nacional Agraria La Molina, Peru.
- Kasa, K., 1999. "Why Attack a Currency Board?" *FRBSF Economic Letter*, issue Nov 26.
- Kiguel, M. and N. Liviatan, 1992. "The Business Cycle Associated with Exchange Rate Based Stabilization," *World Bank Economic Review*, 6, 279-305.
- Krugman, P., 1979. "A Model of Balance-Of-Payments Crises," *Journal of Money, Credit, and Banking*, 11(3), 311-325.
- Mishkin, F. and M. Savastano, 2001. "Monetary Policy Strategies for Latin America," *Journal of Development Economics*, 66(2), 415-444.
- Mishkin, F., 1998. "The Dangers of Exchange-Rate Pegging in Emerging-Market Countries," *International Finance*, 1(1), 81-101.
- Mishkin, F., 1999. "International Experiences with Different Monetary Policy Regimes," *Journal of Monetary Economics*, 43(3), 576-606.

Obstfeld, M. and K. Rogoff, 1995. "The Mirage of Fixed Exchange Rates," *Journal of Economic Perspectives*, 9(4), 73-96.

Obstfeld, M., 1986. "Rational and Self-Fulfilling Balance-Of-Payments Crises," *American Economic Review*, 76(1), 72-81.

Pape, U. and J. Mistiaen (2015), "Measuring Household Consumption and Poverty in 60 Minutes: The Mogadishu High Frequency Survey", World Bank 2015.

Prazmowski, P. and J. Sanchez-Fung, 2014. "Assessing the Impact of Different Nominal Anchors on the Credibility of Stabilisation Programmes," *Journal of Applied Economics*, 17(2), 353-372.

Reinhart, C. and C. Vegh, 1994. "Inflation Stabilization in Chronic Inflation Countries: The Empirical Evidence," MPRA Paper 13689, University Library of Munich.

Rodriguez, C., 1982. "The Argentine Stabilization Plan of December 20th," *World Development*, 10(September), 801-811.

Romero, R., 2008. "Monetary Policy in Oil-Producing Economies," Princeton University Working Paper 1053.

Schmitt-Grohe, S. and M. Uribe, 2011. "Pegs and Pain," NBER Working Papers 16847.

Stein, E., J. Frieden, and P. Ghezzi, 2000. "Politics and Exchange Rates: A Cross-Country Approach to Latin America," Research Department Publications 3119, Inter-American Development Bank.

Sugawara, N., 2014. "From Volatility to Stability in Expenditure; Stabilization Funds in Resource-Rich Countries," IMF Working Paper 14/43.

Svensson, L. and M. Woodford, 2004. "Implementing Optimal Policy through Inflation-Forecast Targeting," in B. Bernanke and M. Woodford (eds.), *The Inflation-Targeting Debate* (pp. 19-92), Chicago: University of Chicago Press.

Svensson, L., 2002. "Inflation Targeting: Should It Be Modeled as an Instrument Rule or a Targeting Rule?" *European Economic Review*, 46(4-5), 771-780.

Taylor, J., 1993. "Discretion Versus Policy Rules in Practice," *Carnegie-Rochester Conference Series on Public Policy*, 39(1), 195-214.

Velasco, A., 2000. "Exchange-Rate Policies For Developing Countries: What Have We Learned? What Do We Still Not Know?" G-24 Discussion Papers number 5, United Nations Conference on Trade and Development.

World Bank, 2017. "Poverty, Livelihoods and Perception in a High Inflation Environment", Poverty & Equity Global Practice.

World Bank, 2015. "Republic of South Sudan – Systematic Country Diagnostic", October 2015.

The Hanke-Krus World Hyperinflation Table								
(2013, Amended 2016)								
Location	Start Date	End Date	Month With Highest Inflation Rate	Highest Monthly Inflation Rate	Equivalent Daily Inflation Rate	Time Required For Prices To Double	Currency	Type Of Price Index
Hungary <sup>1</sup>	Aug. 1945	Jul. 1946	Jul. 1946	4.19 x 10 <sup>15</sup> %	207%	15.0 hours	Pengo	Consumer
Zimbabwe <sup>2</sup>	Mar. 2007	Mid-Nov. 2008	Mid-Nov. 2008	7.96 x 10 <sup>13</sup> %	98.00%	24.7 hours	Dollar	Implied Exchange Rate*
Yugoslavia <sup>3</sup>	Apr. 1992	Jan. 1994	Jan. 1994	313000000%	64.60%	1.41 days	Dinar	Consumer
Republic of Serbia <sup>4</sup>	Apr. 1992	Jan. 1994	Jan. 1994	297000000%	64.30%	1.41 days	Dinar	Consumer
Germany <sup>5</sup>	Aug. 1922	Dec. 1923	Oct. 1923	29100%	20.90%	3.70 days	Papiermark	Wholesale
Greece <sup>6</sup>	May. 1941	Dec. 1945	Oct. 1944	13800%	17.90%	4.27 days	Drachma	Exchange Rate*
China <sup>7</sup>	Oct. 1947	Mid-May 1949	Apr. 1949	3070%	14.10%	5.34 days	Yuan	Wholesale for Shanghai
Free City of Danzig <sup>8</sup>	Aug. 1922	Mid-Oct. 1923	Sep. 1923	2440%	11.40%	6.52 days	German Papiermark	Exchange Rate**
Armenia <sup>9</sup>	Oct. 1993	Dec. 1994	Nov. 1993	438%	5.77%	12.5 days	Dram & Russian Ruble	Consumer
Turkmenistan †† <sup>10</sup>	Jan. 1992	Nov. 1993	Nov. 1993	429%	5.71%	12.7 days	Manat	Consumer
Taiwan <sup>11</sup>	Aug. 1945	Sep. 1945	Aug. 1945	399%	5.50%	13.1 days	Yen	Wholesale for Taipei
Peru <sup>12</sup>	Jul. 1990	Aug. 1990	Aug. 1990	397%	5.48%	13.1 days	Inti	Consumer
Bosnia and Herzegovina <sup>13</sup>	Apr. 1992	Jan. 1993	Jan. 1992	322%	4.92%	14.6 days	Dinar	Consumer
France <sup>14</sup>	May 1795	Nov. 1796	Mid-Aug. 1796	304%	4.77%	15.1 days	Mandat	Exchange rate
China <sup>15</sup>	Jul. 1943	Aug. 1945	Jan. 1945	302%	4.75%	15.2 days	Yuan	Wholesale for Shanghai
Ukraine <sup>16</sup>	Jan. 1992	Nov. 1994	Jan. 1992	285%	4.60%	15.6 days	Russian Ruble	Consumer
Poland <sup>17</sup>	Jan. 1923	Jan. 1924	Oct. 1923	275%	4.50%	16.0 days	Marka	Wholesale
Nicaragua <sup>18</sup>	Jan. 1986	Mar. 1991	Mar. 1991	261%	4.37%	16.4 days	Corдобa	Consumer
Congo (Zaire) <sup>19</sup>	Nov. 1993	Sep. 1994	Nov. 1993	250%	4.26%	16.8 days	Zaire	Consumer
Russia†† <sup>20</sup>	Jan. 1992	Jan. 1992	Jan. 1992	245%	4.22%	17.0 days	Ruble	Consumer
Bulgaria <sup>21</sup>	Feb. 1997	Feb. 1997	Feb. 1997	242%	4.19%	17.1 days	Lev	Consumer
Moldova <sup>22</sup>	Jan. 1992	Dec. 1993	Jan. 1992	240%	4.16%	17.2 days	Russian Ruble	Consumer
Venezuela <sup>23</sup>	Nov. 2016	Ongoing	Nov. 2016	221%	3.96%	17.8 days	Bolivar	Exchange Rate***
Russia / USSR <sup>24</sup>	Jan. 1922	Feb. 1924	Feb. 1924	212%	3.86%	18.5 days	Ruble	Consumer
Georgia <sup>25</sup>	Sep. 1993	Sep. 1994	Sep. 1994	211%	3.86%	18.6 days	Coupon Russian Ruble	Consumer
Tajikistan†† <sup>26</sup>	Jan. 1992	Oct. 1993	Jan. 1992	201%	3.74%	19.1 days	Russian Ruble	Consumer
Georgia <sup>27</sup>	Mar. 1992	Apr. 1992	Mar. 1992	198%	3.70%	19.3 days	Russian Ruble	Consumer
Argentina <sup>28</sup>	May-89	Mar. 1990	Jul. 1989	197%	3.69%	19.4 days	Austral	Consumer
Bolivia <sup>29</sup>	Apr. 1984	Sep. 1985	Feb. 1985	183%	3.53%	20.3 days	Boliviano	Consumer
Belarus†† <sup>30</sup>	Jan. 1992	Feb. 1992	Jan. 1992	159%	3.22%	22.2 days	Russian Ruble	Consumer
Kyrgyzstan †† <sup>31</sup>	Jan. 1992	Jan. 1992	Jan. 1992	157%	3.20%	22.3 days	Russian Ruble	Consumer
Kazakhstan †† <sup>32</sup>	Jan. 1992	Jan. 1992	Jan. 1992	141%	2.97%	24.0 days	Russian Ruble	Consumer
Austria <sup>33</sup>	Oct. 1921	Sep. 1922	Aug. 1922	129%	2.80%	25.5 days	Crown	Consumer
Bulgaria <sup>34</sup>	Feb. 1991	Mar. 1991	Feb. 1991	123%	2.71%	26.3 days	Lev	Consumer
Uzbekistan †† <sup>35</sup>	Jan. 1992	Feb. 1992	Jan. 1992	118%	2.64%	27.0 days	Russian Ruble	Consumer
Azerbaijan <sup>36</sup>	Jan. 1992	Dec. 1994	Jan. 1992	118%	2.63%	27.0 days	Russian Ruble	Consumer
Congo (Zaire) <sup>37</sup>	Oct. 1991	Sep. 1992	Nov. 1991	114%	2.57%	27.7 days	Zaire	Consumer
Peru <sup>38</sup>	Sep. 1988	Sep. 1988	Sep. 1988	114%	2.57%	27.7 days	Inti	Consumer
Taiwan <sup>39</sup>	Oct. 1948	May-49	Oct. 1948	108%	2.46%	28.9 days	Taipei	Wholesale for Taipei
Hungary <sup>40</sup>	Mar. 1923	Feb. 1924	Jul. 1923	97.90%	2.30%	30.9 days	Crown	Consumer
Chile <sup>41</sup>	Oct. 1973	Oct. 1973	Oct. 1973	87.60%	2.12%	33.5 days	Escudo	Consumer
Estonia †† <sup>42</sup>	Jan. 1992	Jan. 1992	Jan. 1992	87.20%	2.11%	33.6 days	Russian Ruble	Consumer
Angola <sup>43</sup>	Dec. 1994	Jan. 1997	May-96	84.10%	2.06%	34.5 days	Kwanza	Consumer
Brazil <sup>44</sup>	Dec. 1989	Mar. 1990	Mar. 1990	82.40%	2.02%	35.1 days	Cruzado & Cruzeiro	Consumer
Democratic Republic of Congo <sup>45</sup>	Aug. 1998	Aug. 1998	Aug. 1998	78.50%	1.95%	36.4 days	Franc	Consumer
Poland <sup>46</sup>	Oct. 1989	Jan. 1990	Jan. 1990	77.30%	1.93%	36.8 days	Zloty	Consumer
Armenia †† <sup>47</sup>	Jan. 1992	Feb. 1992	Jan. 1992	73.10%	1.85%	38.4 days	Russian Ruble	Wholesale
Tajikistan <sup>48</sup>	Oct. 1995	Nov. 1995	Nov. 1995	65.20%	1.69%	42.0 days	Tajikistani Ruble	Wholesale
Latvia <sup>49</sup>	Jan. 1992	Jan. 1992	Jan. 1992	64.40%	1.67%	42.4 days	Russian Ruble	Consumer
Turkmenistan †† <sup>50</sup>	Nov. 1995	Jan. 1996	Jan. 1996	62.50%	1.63%	43.4 days	Manat	Consumer
Philippines <sup>51</sup>	Jan. 1944	Dec. 1944	Jan. 1944	60.00%	1.58%	44.9 days	Japanese War Notes	Consumer
Yugoslavia <sup>52</sup>	Sep. 1989	Dec. 1989	Dec. 1989	59.70%	1.57%	45.1 days	Dinar	Consumer
Germany <sup>53</sup>	Jan. 1920	Jan. 1920	Jan. 1920	56.90%	1.51%	46.8 days	Papiermark	Wholesale
Kazakhstan <sup>54</sup>	Nov. 1993	Nov. 1993	Nov. 1993	55.50%	1.48%	47.8 days	Tenge & Russian Ruble	Consumer
Lithuania <sup>55</sup>	Jan. 1992	Jan. 1992	Jan. 1992	54.00%	1.45%	48.8 days	Russian Ruble	Consumer
Belarus <sup>56</sup>	Aug. 1994	Aug. 1994	Aug. 1994	53.40%	1.44%	49.3 days	Belarusian Ruble	Consumer
Taiwan <sup>57</sup>	Feb. 1947	Feb. 1947	Feb. 1947	50.80%	1.38%	51.4 days	Taipei	Wholesale for Taipei

Notes:

- When a country experiences periods of hyperinflation that are broken up by 12 or more consecutive months with a monthly inflation rate below 50%, the periods are defined as separate episodes of hyperinflation.

- The currency listed in the chart is the one that, in a particular location, is associated with the highest monthly rate of inflation. The currency may not have been the only one that was in circulation, in that location, during the episode.

- We are aware of one other case of hyperinflation: North Korea. We reached this conclusion after calculating inflation rates using data from the foreign exchange black market, and also by observing changes in the price of rice. Based on our estimates, this episode of hyperinflation most likely occurred from December 2009 to mid-January 2011. Using black-market exchange-rate data, and calculations based on purchasing power parity, we determined that the North Korean hyperinflation peaked in early March 2010, with a monthly rate of 496% (implying a 6.13% daily inflation rate and a price-doubling time of 11.8 days). When we used rice price data, we calculated the peak month to be mid-January 2010, with a monthly rate of 348% (implying a 5.12% daily inflation rate and a price-doubling time of 14.1 days). All of these data were obtained August 13, 2012 from Daily NK, an online newspaper that focuses on issues relating to North Korea (<http://www.dailynk.com/english/market.php>). We also acknowledge that our investigation was aided by reports from Good Friends USA, a Korean-American advocacy and research organization, as well as from Marcus Noland at the Peterson Institute for International Economics.

(\*) The authors calculated Zimbabwe's inflation rate, from August to November 2008, using changes in the price of the stock, Old Mutual, which was traded both on the Harare and London stock exchanges. The stock prices yielded an implied exchange rate for Zimbabwe dollars, under purchasing power parity.

(†) The Republika Srpska is a Serb-majority, semi-autonomous entity within Bosnia and Herzegovina. From 1992 until early 1994, the National Bank of Republika Srpska issued its own unique currency, the Republika Srpska dinar.

(‡) Greece's inflation rate was estimated by calculating the drachma / gold sovereign exchange rate.

(§) The peak monthly inflation rate listed for China in the table differs from that presented in one of the authors' previous pieces on hyperinflation (Hanke and Kwok, 2009). This revision is based on new data from a number of sources, which were recently obtained from the Library of Congress in Washington, D.C.

(\*\*) We calculated the Free City of Danzig's inflation rate using German inflation data, since the German papiermark was in circulation in Danzig during this time. It is worth noting that Germany and Danzig experienced different peak months of hyperinflation. This is case because the last full month in which the German papiermark circulated in the Free City of Danzig was September 1923. Germany continued to circulate the papiermark beyond this point, and subsequently experienced its peak month of hyperinflation (October 1923).

(††) The data for many of the post-Soviet countries were only available in the World Bank's Statistical Handbook: States of the Former USSR. In this publication, the authors stated that the data should be viewed with an extra degree of caution because the statistics were taken from the corresponding official internal government source and not independently reviewed by the World Bank. However, these statistics are official and are the only source of data available for the corresponding time periods for each country.

(\*\*\*) We calculated PPP implied inflation for Venezuela using black market exchange rate data from [dolartoday.com](http://dolartoday.com).

## Annex 2

## Countries following inflation targeting

	Country	Adoption Year	Real GDP per capita	Exchange Rate Regime	
				de facto	de jure
1	Albania	2009	2620.82	float	float
2	Armenia	2006	1625.40	peg	float
3	Australia	1993	33,947.56	float	float
4	Canada	1991	35,087.89	peg	float
5	Colombia	1999	3392.92	float	float
6	Czech Republic	1997	12,705.61	peg	float
7	Ghana	2007	501.86	peg	float
8	Guatemala	2005	2146.18	peg	float
9	Hungary	2001	10,936.95	peg	float
10	Iceland	2001	54,885.26	float	float
11	Indonesia	2005	1273.47	float	float
12	Korea Rep.	2001	17,550.85	float	float
13	Mexico	2001	7,666.70	float	float
14	New Zealand	1990	27,357.86	float	float
15	Norway	2001	65,767.02	float	float
16	Peru	2002	2863.48	peg	float
17	Philippines	2002	1200.94	peg	float
18	Poland	1998	7963.02	float	float
19	Romania	2005	4572.05	float	peg
20	Switzerland	2000	51,734.30	float	float
21	Thailand	2000	2689.95	float	float
22	Turkey	2006	7129.58	float	float
23	United Kingdom	1992	38,121.56	peg	float

Source: Ismailov et al. (2016)

## Annex 3

## Dynamics of ERBS in Latin America

**In Latin America, countries generally opted for ERBS when suffering relatively high inflation rates.** In Latin America an example of a currency board is the Convertibility Plan in Argentina that lasted from 1991 to 2001. An example of dollarization is Ecuador, which since 2000 eliminated its domestic currency and adopted the U.S. dollar as legal tender. Among the surveyed countries, the median value of annual inflation in the year before implementing an ERBS was 126

percent, with inflation ranging from 61 to 2,477 percent. A possible explanation why countries with relatively high inflation chose ERBS could be that the higher inflation is, the lower is the confidence that the central bank can pursue an independent monetary policy. Thus, an ERBS became a more appealing option than an MBS, as the probability that the latter would succeed was lower (Stein et al., 2000). Furthermore, in Latin America ERBSs used to be more credible than MBSs and, as a result,



after they were announced they tended to lead to a larger drop in inflation inertia (Prazmowski and Sanchez-Fung, 2014). In fact, as shown in ERBSs were very successful at quickly reducing inflation, even when inflation was exceptionally high. For

example, only two years after the implementation of ERBS, inflation in Argentina and Brazil was reduced from 1,344 to 13 percent and from 2,477 to 9.6 percent, respectively.

**Table 2** Annual inflation rates before and after ERBS

Country	Period	Annual inflation rate			
		One year before implementation	Two years after implementation	Year of termination	One year after termination
Argentina <i>tablita</i>	1978-1981	176	87.6	131.3	209.7
Chile <i>tablita</i>	1978-1982	91.9	31.2	20.7	23.4
Uruguay <i>tablita</i>	1978-1982	61.1	42.8	20.5	51.5
Mexico <i>Pacto</i>	1988-1994	159.2	29.9	7.1	52.0
Uruguay exchange rate bands	1990-2001	89.2	58.9	3.6	26.0
Argentina Convertibility Plan	1991-2001	1,343.9	12.6	-1.5	41.0
Brazil Real Plan	1994-1998	2,477.1	9.6	1.7	8.9
Ecuador dollarization	2000-	60.7	9.4	-	-

Source: Data on annual inflation rates is from the IMF World Economic Outlook. Implementation and end dates of the stabilization plans are from Calvo and Vegh (1999) and Frenkel and Rapetti (2010).

Conventional wisdom sustains that ERBS is followed by “boom-bust” cycles, in which an initial expansion of the economy is followed by a recession. This pattern contrasts with MBS, which first generates a recession and then a boom of the economy (Kiguel and Liviatan, 1992; Calvo and Vegh, 1994, 1999; Reinhart and Vegh, 1994). The Latin American experience with ERBS seemed to conform to this trend of initial boom followed by a crisis. As shown in Table 3, countries experienced a substantial jump in annual GDP growth the same year the ERBS was implemented. For instance, the case of Argentina was remarkable. In the three year prior to the Convertibility Plan, Argentina experienced on average a negative annual GDP growth of -3.4 percent. The same year this plan

was implemented, growth jumped to 11 percent. Similar is the case of Chile. In 1978 when the *tablita* was announced, annual GDP growth was 8.3 percent compared to an average growth of only 0.2 percent in the previous three years. The case of Argentina under the *tablita* and of Uruguay under the exchange rate band seemed to go against this pattern because economic activity fell during the year these plans were implemented. However, these might be associated with the fact that both plans were implemented in December and, hence, their effects would not be noticeable until the following year (where in fact a significant increase in annual GDP growth can be observed). Although we do not show data, a consumption boom accompanied GDP growth in all countries.

Table 3

Annual GDP growth rates before and after ERBS

Country	Period	Annual inflation rate			
		Average three years before program	Year program was implemented	One year after program	Last year of program
Argentina <i>tablita</i>	1978-1981	0.1	-3.4	7.1	-5.7
Chile <i>tablita</i>	1978-1982	0.2	8.2	8.3	-13.6
Uruguay <i>tablita</i>	1978-1982	3.7	5.3	6.2	-9.3
Mexico <i>Pacto</i>	1988-1994	0.3	1.3	4.1	4.8
Uruguay exchange rate bands	1990-2001	3.5	0.3	3.5	-3.5
Argentina Convertibility Plan	1991-2001	-3.4	10.5	10.3	-4.4
Brazil Real Plan	1994-1998	1.7	5.3	4.4	0.3
Ecuador dollarization	2000-	1.0	1.1	4.0	-

Source: Data on annual GDP growth rates is from the IMF World Economic Outlook. Implementation and end dates of the stabilization plans are from Calvo and Vegh (1999) and Frenkel and Rapetti (2010).

The initial expansion in GDP growth could have several potential explanations. For example, it could have been due to inflation stickiness. A decrease in the devaluation rate is expected to lower nominal interest rate through the interest rate parity condition. If inflation expectations were sticky, then a lower nominal interest rate but unchanged inflation expectations would lower the real interest rate, stimulating aggregate demand (Rodriguez, 1982). Lack of credibility could have also explained this behavior (Calvo and Vegh, 1993). If households expected the stabilization plan to be abandoned and, thus, the exchange rate to depreciate, they would have preferred to consume in the early stages of the plan (when the peg kept nominal interest rates low) rather than later (when the exchange rate would be devalued and nominal interest rates would be high). Wealth effects associated with the reduction of the inflation tax and an expected decrease in government expenditure related to higher fiscal discipline could have also boosted consumption and growth in the early stages of these plans (Helpman and Razin, 1987; Drazen and Helpman, 1988).

Even when initially beneficial, the early expansion has been typically followed by a decline in economic activity leading to the abandonment of the stabilization plans. As Table 3 shows, except in the case of the Mexican *Pacto*, ERBSs were abandoned after the country suffered a stop or a contraction in economic activity. For instance, Chile and Uruguay experienced on average annual GDP growth of 7.7 and 4.8 percent, respectively, during the first four years after the implementation of the *tablit*as. However, they had to abandon the plans after output fell by 14 and 9.6 percent, respectively, in the fifth year. Likewise, under the Convertibility Plan, Argentina experienced on average annual GDP growth of 5.9 percent between 1991 and 1998. Since 1999, Argentina started to experience negative annual growth rates. Eventually, the Convertibility Plan collapsed in 2001 after GDP growth dropped by 4.4 percent. In all countries, after the stabilization plan was abandoned, inflation resumed.

The own dynamics of ERBSs might have planted the seeds of their destruction. On the one hand,

ERBSs were associated with an appreciation of the real exchange rate (RER), which reduced competitiveness. RER appreciation was caused by inflation converging slowly to the devaluation rate. On the other hand, as explained above, ERBSs led to consumption booms. Lower competitiveness in the context of a consumption boom, increased imports, generating large trade deficits (Calvo and Vegh, 1994, 1999). Sooner or later these trade deficits became unsustainable and the misalignment in the RER needed to be corrected. RER appreciations could be corrected either by price adjustments or devaluations. In general, policymakers chose the latter option because it was faster and less costly (Goldfajn and Valdes, 1999). But this route ended up undermining the initial idea of having a credible anchor that would persist over time.

As a result of these dynamics, ERBS in Latin America were in general short lived. The dollarization in Ecuador, which has been in place for 17 years so far, is the longest ERBS among the surveyed countries. The relatively long duration of this plan might be associated to the above-mentioned facts that dollarization shields countries from speculative attacks and to the high costs of abandoning these types of programs. Among the rest of the surveyed programs (in all of which countries continued to use their domestic currency), none of them lasted longer than ten years. The convertibility in Argentina and the exchange rate bands regime in Uruguay were the ones that lasted the most, being in place for ten years. At the other extreme, the Argentina tablita only lived for four years.

#### Annex 4

#### MBS versus ERBS in Latin America

**In Latin America, there are several examples of MBS.** For example, Mexico, between 1995 and 2000, and Peru, between 1990 and 1993, implemented MBSs that relied on the growth rate of money as the nominal anchor. Later on, both countries transitioned toward inflation targeting. Mexico did so in 2001 and Peru in 1994. Other countries directly implemented an MBS that relied on inflation targeting, such as Chile since 1991, and Colombia and Brazil since 1999.<sup>40</sup> All of these plans are still in place today.

**Relatively to ERBS, countries that had lower inflation have been the ones that ended up implementing MBS** (Table 4). Among the surveyed countries, the median value of annual inflation in the year before implementing an MBS was 17 percent, compared to 126 in countries adopting ERBS. In some cases, such as Brazil and Mexico, countries adopted MBS after experiencing one-digit inflation. But, MBS has also been adopted in the case of exceptionally high inflation too, as was the case in Peru.

**Another noticeable difference between MBS and ERBS is that the former seemed to have reduced inflation more gradually.** To illustrate this point, one can compare the developments in Brazil under the ERBS discussed in the previous section and Peru under a MBS. Both countries implemented stabilization plans after undergoing similar inflation rates. Brazil adopted ERBS after annual inflation reaching 2,477 percent whereas Peru implemented its money-targeting plan with an annual inflation of 2,775. Two years after the implementation of ERBS, Brazil had annual inflation of 9.6 percent whereas in Peru annual inflation was 57 percent. In fact, Peru needed seven years to reach one-digit inflation. This pattern helps further explain why MBS was not the preferred choice of countries with relative higher inflation. In these countries, governments might not have had the time or the political support to implement a stabilization plan that would lower inflation gradually.

<sup>40</sup> Dating the start of MBSs in Latin America is not an easy task and different studies consider different starting dates. We set the start dates of these plans based on the studies by Jimenez (2004) and Broto (2011).

Table 4

Annual inflation rates before and after MBS

Country	Period	Annual inflation rate			
		One year before implementation	Two years after implementation	Five years after implementation	Average ten years after implementation
Chile	1990-	21.2	12.9	8.3	8.6
Peru*	1990-	2,775.3	56.8	10.2	29.3
Mexico*	1995-	7.1	15.7	9.0	10.6
Brazil	1999-	1.7	7.7	7.6	6.7
Colombia	1999-	16.7	7.6	5.5	6.0

\*: Mexico and Peru started with monetary targeting and then transitioned toward inflation targeting in 2001 and 1994, respectively. Both separate approaches are considered as a single stabilization plan in the analysis.

Source: Data on annual inflation rates is from the IMF World Economic Outlook. Implementation dates of the stabilization plans are from Jimenez (2004) and Broto (2011).

**Whereas ERBS generates a boom-bust cycle, MBS are predicted to cause instead a “bust-boom” cycle.**

The implementation of these programs is typically followed by an initial contraction of economic activity. The tightening of monetary policy increases interest rates and reduces aggregate demand, reducing output as well. After the initial contraction, the economy rebounds and growth resumes (Kiguel and Liviatan, 1992; Calvo and Vegh, 1994, 1999; Reinhart and Vegh, 1994). As Table 5 shows, in Latin America the implementation of MBS conformed to this pattern and an initial

expansion was generally followed by an economic downturn. Colombia and Mexico suffered negative economic growth after their MBSs were put in place. Peru also exhibited negative growth the year it implemented its MBS. However, the causal relation is less clear because the economy was already under negative growth. Brazil and Chile experienced a deceleration of economic growth but output growth was still positive. However, in all of these countries growth resumed one year after the implementation of the plan and remained strong during the subsequent years.

Table 5

Annual GDP growth rates before and after MBS

Country	Period	Annual inflation rate			
		Average three years before implementation	Year program was implemented	One year after implementation	Average ten years after implementation
Chile	1990-	8.2	3.7	7.9	6.4
Peru	1990-	-5.0	-5.1	2.2	4.0
Mexico	1995-	3.5	-5.8	5.9	3.4
Brazil	1999-	2.0	0.5	4.4	3.4
Colombia	1999-	2.0	-4.2	2.9	4.0

\*: Mexico and Peru started with monetary targeting and then transitioned toward inflation targeting in 2001 and 1994, respectively. Both separate approaches are considered as a single one in the analysis.

Source: Data on annual GDP growth rates is from the IMF World Economic Outlook. Implementation dates of the stabilization plans are from Jimenez (2004) and Broto (2011).

**The evidence on MBSs in the selected Latin American countries suggests that these programs were relatively more sustainable over time compared to ERBSs.** In all of these countries MBS is still in force and have been in place for over 18 years. One could think of two possible reasons behind the higher stability of MBS. First, the destabilization factor of ERBSs was not present in MBSs. In other words, MBSs did not lead to large trade deficits that could be sustained and forced a depreciation of the currency. In MBSs, inflation converged slowly to the money supply, which appreciated the RER. However, in contrast to what happened under ERBSs, the contraction in consumption caused by the fall in economic activity more than compensated the effect of lower competitiveness so, as a result, countries tend to experience trade surpluses (Calvo and Vegh, 1994, 1999). Second, after the initial contraction, the

economy quickly entered into a path of economic growth and inflation gradually slowed down. As a result, good economic performance increased support for the program and the belief that it could be sustained, which in turn reinforced its stability.

**After the experiences in the 1980s and 1990s, Latin American countries have predominantly tilted toward MBS to deal with inflation.** On the one hand, ERBS only managed to control inflation for a short period of time and also frequently led to recessions and eventual crises that precipitated the exit. As a result, Latin American countries that during the 1980s and 1990s experimented with ERBS, such as Argentina, Brazil, and Mexico, have decided to move on to MBS. On the other hand, countries that have put in place MBS have continued with their plan and, even, moved from a money growth target toward an inflation target.



Country	Disinflation Period	Main Disinflation Years		Official Development Assistance & Aid [% of GDP] <sup>2</sup>	Fund Arrangement in the 12 Months After the Peak <sup>3</sup>	Fund Arrangement in the 12 Months After the Peak?
		Peak	12 Months After Peak			
Angola	Dec 1996 - Jan 1998	1997	2,660.8	131.5	4.6	No
Argentina	Jul 1985 - Jun 1986	1985 - 1986	1,128.9	50.1	0.0/0.08	Yes
Argentina	Apr 1990 - Jun 1994	1990 - 1991	20,266.0	287.3	0.1/0.1	Yes
Amenia	Jun 1994 - Feb 1997	1994 - 1995	27,019.7	196.7	14.5/14.8	No <sup>3</sup>
Azerbaijan, Rep. of	Dec 1994 - Feb 1997	1995	1,898.4	173.6	3.9	No <sup>3</sup>
Bolivia	Oct 1985 - Sep 1987	1985 - 1986	23,447.0	94.1	6.3/8.4	Yes
Brazil	May 1990 - Jul 1991	1990 - 1991	6,821.3	375.2	0.0/0.0	No
Brazil	Jul 1994 - Feb 1997	1991 - 1995	4,922.6	33.0	0.0/0.0	No
Bulgaria	Apr 1997 - Nov 1998	1997 - 1998	2,019.5	22.1	2.1/1.9	Yes
Congo, Dem. Rep. of	Oct 1992 - Oct 1993	1992 - 1993	7,689.2	486.2	1.7	No
Congo, Dem. Rep. of	Oct 1994 - Sep 1995	1994 - 1995	91,253.1	330.2	4.2/3.5	No <sup>4</sup>
Croatia	Jul 1993 - Nov 1994	1993 - 1994	19,449.5	209.7	0.8	No <sup>3</sup>
Estonia	1993	1993	1,069.0	89.0	1.1	Yes <sup>3</sup>
Georgia	Feb 1995 - Sep 1995	1995	2,667.8	42.9	7.8	Yes <sup>3</sup>
Kazakhstan	Aug 1994 - Mar 1999	1994 - 1995	3,121.4	156.1	0.3/0.3	Yes
Kyrgyz Republic	Sep 1993 - Feb 1996	1993 - 1994	1,311.8	169.6	5.5/10.3	Yes <sup>3</sup>
Macedonia, FYR/SFRY <sup>1</sup>	1990	1990	1,239.9	608.4	n.a.	Yes
Macedonia, FYR	Nov 1992 - Dec 1996	1993	2,100.5	241.7	0.1	No
Moldova	1994	1994	2,705.7	104.6	3.2	Yes <sup>3</sup>
Nicaragua	Feb 1989 - Mar 1990	1989	43,033.7	1,074.4	24.1	No
Nicaragua	Apr 1991 - Apr 1992	1991	63,775.7	24.2	56.3	Yes
Peru	Sep 1990 - Sep 1995	1990 - 1991	12,377.8	230.4	1.5/1.8	No
Poland	Mar 1990 - Mar 1992	1990 - 1991	1,173.3	90.9	2.2/3.3	Yes
Russia	Oct 1993 - Nov 1994	1993 - 1994	1,066.7	221.1	0.6/0.5	No <sup>3</sup>
Slovenia/SFRY <sup>1</sup>	Feb 1990 - Mar 1991	1990	3,450.0	51.2	n.a.	Yes
Tajikistan	Jan 1994 - Dec 1994	1994	7,344.0	1.1	50	No
Tajikistan	Mar 1996 - Mar 1997	1996 - 1997	2,266.8	13.4	9.8/9.3	Yes
Turkmenistan	Jul 1996 - Feb 1998	1996 - 1997	1,633.6	98.4	1.0/0.5	No
Ukraine	Jan 1994 - Nov 1997	1994 - 1995	10,155.0	401.1	0.6/0.7	No <sup>3</sup>
Uzbekistan	Nov 1994 - Oct 1996	1995	1,844.2	189.4	0.6	No <sup>3</sup>

Source: Coorey et al. (2007)

<sup>1</sup> Slovenia, before June 1991, and Macedonia, before September 1991, were part of the Socialist Federal Republic of Yugoslavia (SFRY).

<sup>2</sup> The official development assistance and official aid data refers to the main disinflation years.

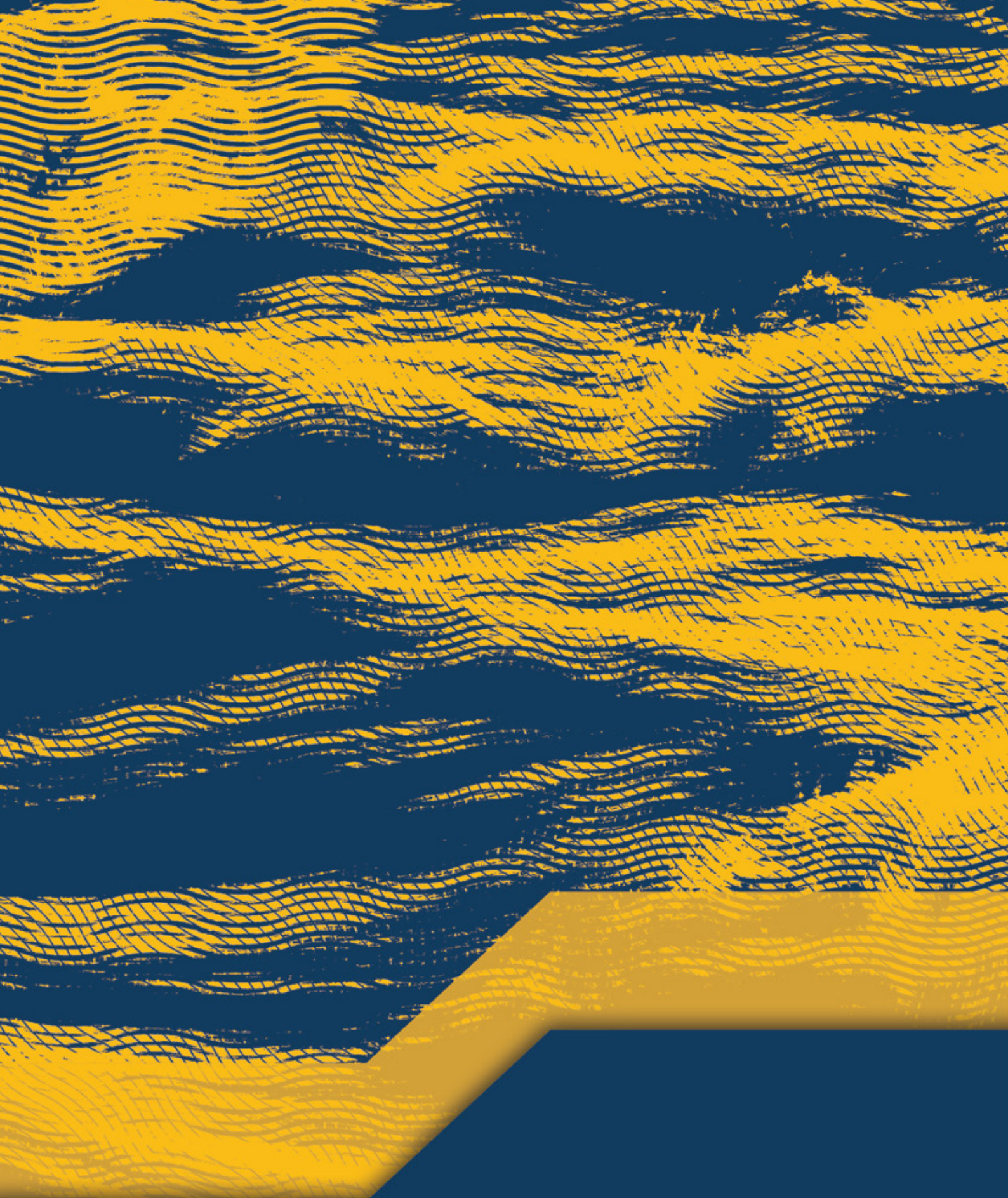
<sup>3</sup> These countries made drawings under the Systemic Transformation Facility (STF).

<sup>4</sup> Democratic Republic of Congo had a staff-monitored program (SMP) from January 1994 to December 1996 that did not involve financing.









**THE WORLD BANK**  
IBRD • IDA