Exchange Rate Options for South Sudan

Christopher Adam[1]

University of Oxford

and

Lee Crawfurd

Oxford Policy Management Ltd

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[1] Corresponding author: christopher.adam@economics.ox.ac.uk

Executive Summary

This paper is concerned with exchange rate management in South Sudan. It argues that the exchange rate regime currently sits uncomfortably between two regimes. The first is a fixed exchange rate anchored by a set of 'currency board' rules. Though broadly effective in a macroeconomic sense, this regime has been plagued by quite serious problems of rent-seeking and corruption more or less since its inception in July 2011. As pressures on the balance of payments increase, this arrangement appears to be giving way to a less robust 'conventional' fixed exchange rate regime that relies for its stability on a level of fiscal control that is becoming increasingly hard for the authorities to deliver and as such the parallel market premium is beginning to increase. The severity of the impending economic crisis for South Sudan makes it likely that this fixed regime will disintegrate, inflation will spike and, with some likelihood, the economy will revert to a *de facto* dollarization.

The paper consists of four main sections.

1 - Options open to the Government of the Republic of South Sudan (GRSS) for managing its exchange rate regime.

A key consideration when choosing an exchange rate regime is its capacity to stabilize inflation and manage volatility in the domestic economy. For small open economies such as South Sudan, an effective fixed exchange rate regime fixes inflation close to that of the reference currency, at the cost of not providing much flexibility to deal with economic shocks. By contrast, while a flexible exchange rate may protect the economy better from short-run economic volatility, successful operation of a float rate regime an in a way that also delivers stable inflation is extremely demanding in terms of core macroeconomic capabilities.

Given the structure and level of development of the South Sudanese economy, there is a strong case for a 'hard peg' fixed regime *if it is anchored* by a set of 'currency board' rules providing for fiscal discipline.

2 - The drivers of the black market exchange rate.

For a fixed exchange rate to function, the government must be able to supply all of the foreign currency demanded by the market at the fixed rate. Under a currency board this is semi-automatic since the currency board rules effectively tie the growth of domestic demand for imports tightly to the growth in the supply of foreign currency. When circumstances tighten, demand is squeezed and the foreign exchange market is brought back in line at the fixed rate. In such circumstances, the black market rate is driven by *microeconomic factors* including the rent seeking activities of powerful elites.

If the discipline of the currency board slips, however, yet government seeks to maintain an overvalued fixed exchange rate, the resulting excess demand for foreign currency stokes the parallel market. As government revenues dry up, the Central Bank will be forced to reduce the dollars it supplies to the market and unless fiscal adjustments can be made elsewhere, the parallel rate is likely to depreciate significantly, driving domestic inflation upwards, potentially leading to a worthless currency and flight to the dollar.

Given the impending worsening of the economy of South Sudan, unless the ferocious discipline demanded by the currency board is imposed, this unattractive slide towards a burst of very high inflation followed by full dollarization is quite likely.

Nonetheless, and even once the crisis is over, concerns about rent-seeking and corruption around the exchange rate remain legitimate. However, both full dollarization and full exchange rate unification eliminate the principal source of corruption around the exchange rate, albeit with very differing implications for inflation. It is likely, therefore, that in the near future concerns about corruption and resource allocation elsewhere in the economic system will be of higher importance than corruption due to the exchange rate regime.

3 - Methods by which the current dual exchange rate approach may be being exploited for corrupt or other illegal purposes.

It is clear that the dual exchange rate is currently being exploited for corrupt purposes. Those with access to the official exchange rate window appear to be extracting significant rents from the system, equivalent to around 12% – 15% of government expenditure or 3% of GDP.

4 - Recommendations to donors to more effectively influence the Government to choose an appropriate exchange rate regime.

For as long as GRSS pursues a fixed exchange rate regime, there is a case for seeking to improve the transparency and integrity of foreign exchange operations through the official window and to push for greater competition in the retail foreign exchange market.

On the issue of the exchange rate regime, donors and government face a very difficult situation and there is no simple option. In many respects, the initial plan to run a fixed exchange rate anchored by a currency board is very sensible. But such a system can only function if the fiscal discipline it demands can be respected. If not, the parallel market will increase and the distortions associated with the official rate will worsen. Controls on the demand for dollars which the government is implementing may be effective temporarily but there is extensive evidence from other countries that such controls weaken in the medium term.

It may be tempting, in these circumstances, to recommend that if GRSS cannot honour the currency board then it should unify the exchange rate and let it float. This only serves to displace the problem since without an adequate fiscal and monetary regime – which probably requires much deeper engagement with the IMF -- inflation will not be brought under control and there is a serious risk that the economy dollarizes. The irony is that over the next difficult phase the most likely exchange rate arrangement is the exactly the one that the authorities sought to avoid when they introduced the South Sudanese Pound in July 2011.

Introduction, key messages and caveats

This paper is concerned with exchange rate management in South Sudan. It consists of four main sections corresponding to the elements of the terms of reference.

In Section 1 we review the options open to the Government of the Republic of South Sudan (GRSS) for managing its exchange rate regime. We compare the strengths and weaknesses of fixed exchange rate regimes, including the special cases of a currency-board and full dollarization, with a floating regime. We argue that at this stage in South Sudan's development, and given the technical demands of running an effective floating exchange rate regime, the case for seeking to maintain the 'currency board' arrangements anticipated in the Bank of South Sudan Act 2011 remains strong.

The prospect of a major deterioration of the balance of payments and government revenue in 2012 does not fundamentally alter this assessment but makes the currency board rules harder to adhere to. The prospects for the economy are undoubtedly grim but neither a fixed nor a flexible exchange rate regime can protect the economy from the enormous dislocation it is likely to face. Regardless of the regime a period of rapid depreciation and/or high inflation followed by *de facto* dollarization is highly probable.

In Section 2 we consider the drivers of the black market exchange rate in South Sudan. The dynamics of the parallel market are typically seen as a *macro-economic* phenomenon reflecting attempts by the authorities to peg the official exchange rate at a more appreciated level than economic fundamentals would dictate. These factors will become more important with time as the economic crisis worsens and the authorities come under increased pressure to maintain public spending. However, since the introduction of the South Sudanese Pound in July 2011 the parallel foreign exchange market has been driven principally by *micro-economic* factors, in particular the rent-seeking behaviour of those with access to the official exchange rate window.

Section 3 focuses on methods by which the current dual exchange rate approach may be being exploited for corrupt or other illegal purposes. We draw a distinction between the underlying source of corruption around the parallel market – arising from preferential access to the official exchange rate window – from the range of 'coping strategies', such as mis-invoicing and smuggling, that inevitably emerge in the presence of any parallel markets.

Section 4 concludes with some tentative recommendation on how donors might more effectively engage with the Government on exchange rate management. Ideally, the authorities would be able to remain committed to its currency board arrangement. This will not protect the economy from the inevitable pain of contraction but would leave it is a better shape to recover quickly when conditions improve. If the currency board cannot be sustained, exchange rate unification – in other words the effective elimination of the parallel foreign exchange market – is an appropriate objective of policy but only if the authorities are able to operate a high level of fiscal control and a compatible monetary policy. Closer engagement with the IMF is required to put such a regime in place. In either case, it is appropriate for donors to remain focused on the capacity and willingness of the authorities to manage access to the official window in a manner that is transparent and less vulnerable to capture by powerful elites.

Caveats

This paper navigates two important caveats. The first is that the analysis is unavoidably based on limited information. South Sudan does not yet produce detailed balance of payments data, nor does the Bank of South Sudan publish its balance sheet data on its official reserves and lending activities. It is not possible, therefore, to provide a detailed assessment of the exchange rate arrangements, in particular the extent to which the institutional arrangements of the currency board anticipated in the BOSS Act are being observed. The assessment, therefore, relies heavily on first-principle analysis and inference from incomplete evidence: as hard data become available this assessment may need to be revised.

The second caveat is that virtually all analysis in South Sudan must contend with the imminent prospect of a rapid and serious deterioration in economic prospects as the shut-down in oil production pending resolution over the level of transit fees to Port Sudan bites and the security condition worsens. Although the bulk of the analysis is concerned with design issues in the context of a (broadly) sustainable inflow of export revenues, these design and operational issues cannot be entirely decoupled from a discussion of the possible implications of the oil shut-off. We cannot do justice to the full economic implications of the shut-down but conclude with some implications for the exchange rate of the cessation of oil revenues.

1. The exchange rate regime: options, strengths and weaknesses.

First principles: delivering price stability requires a choice over the exchange rate regime.
We start with the assumption that the Government of the Republic of South Sudan (GRSS) includes amongst its policy objectives a degree of price stability. Like all governments, new and established, it therefore must make a choice over how it will deliver on this commitment. This choice – over the form of *nominal anchor* -- will determine the exchange rate regime for the economy. There are essentially two options: an **external anchor** which entails fixing the value of the domestic currency in terms of some external commodity or currency (such as the US dollar) in order to inherit the inflationary characteristics of the anchor currency or commodity; or a **domestic anchor** which requires the authorities to target the growth of aggregate nominal demand typically through the control the growth rate of some measure of the money supply.[2]

If governments are to achieve success in delivering price stability in the medium run they must credibly commit to their chosen anchor and subordinate other policy objectives to honouring the anchor. Thus countries that adopt a fixed exchange rate regime must run monetary policy (which in low-income countries also means fiscal policy) [3] in a manner that is consistent with hitting the target exchange rate, while those seeking to control inflation through money targets or other domestic instruments must let the exchange rate float. There is an inevitable temptation to seek to pursue both monetary and exchange rate objectives simultaneously and indeed many countries successfully do so, at least *over the short run.* In the medium run, however, it is not possible to pursue exchange rate and monetary objectives independently except when cross-border capital flows can be tightly and effectively constrained. Since one of the strongest lessons from monetary economics is that controlling capital flows beyond the short run is extremely difficult, effective and coherent macroeconomic management means a choice over the anchor needs to be made and its logic observed. [4] The recent history of Africa is littered with countless examples of countries who have attempted to use monetary and exchange rate policy pursue multiple objectives and have failed to achieve not only these but have also failed to fulfil the core objective of delivering price stability.

[2] In principle the authorities may seek to anchor inflation by targeting 'expected inflation', in other words adopting a modern inflation-targeting (IT) regime. The institutional requirements for effective IT, even in the hybrid form being developed in other countries in the East African region such as Uganda and Kenya, are currently so far beyond the reach of GRSS to make it pointless to discuss here.

[3] In low income countries, since the principal domestic determinant of the growth of the money supply is domestic financing of the budget deficit, controlling the money supply is closely tied to controlling the fiscal stance. This is the essential philosophy of standard IMF programmes.

[4] This is the logic of the so-called 'impossible trinity' which states that the three desirable objectives of fixed exchange rates (to promote trade), independent monetary policy (for domestic macroeconomic management), and free capital movements (for efficient resource allocation) cannot be simultaneously achieved, for the simple reason that they are not independent: policy makers must abandon one. For example, suppose a government sought to fix the exchange rate and then simultaneously set a loose monetary policy; the inflationary consequences of the latter would induce capital outflows which eventually undermine the exchange rate peg. The history of money and exchange rates world- wide is, essentially, a story of navigating the impossible trinity, choosing which of the three objectives to drop.

Fixed versus floating exchange rates

Assuming that it is not possible to control private capital flows, GRSS must therefore choose between a fixed or floating exchange rate regime (an external or a domestic anchor). Two factors bear heavily on the choice. First, which is more likely to deliver price stability and second, which option is most feasible. Given its current economic structure, including the underdeveloped nature of financial market and the limited technical capacity in government, the case is probably stronger for a fixed rather than a floating exchange rate regime for South Sudan.

Consider first the question of delivering price stability. The overall price level is a weighted average of the domestic price of imported goods and services and the price of domestic goods. [5] In a small open economy, the domestic price of imports is tied down by the world price of imports and the exchange rate (plus any mark-up arising from monopoly considerations in the transport and distribution sectors). Domestic prices on the other hand will be determined fundamentally by the balance of demand and supply and price-setting structures (i.e. the nature of competition) in the local economy.

It follows that if the share of imports in consumption is large then anchoring the domestic price of imports to their world price through a fixed exchange rate allows the authorities to exert control over a large share of the overall price level and hence deliver a medium-term inflation path which will not be too far out of line with world inflation.[6] On the other hand, if the import share is small, a fixed exchange rate stabilizes only a small share of overall prices; in this case a domestic anchor – such as controlling the money supply – may be more effective in determining the evolution of domestic prices, through the simple expedient of constraining demand.

Second is the issue of feasibility. Both fixed and floating regimes require the authorities to display a high degree of fiscal discipline and both are vulnerable, in their own way, to a loss of fiscal control. As recent events in Europe illustrate, no exchange rate regime 'solves' the fiscal discipline problem. The relevant question for South Sudan is thus: which regime is best suited to an environment of weak institutions and limited fiscal capacity and which is least vulnerable to a loss of fiscal discipline. Frequently, the 'rules' for running a fixed exchange rate are somewhat more straightforward than for conducting an independent monetary policy. A fixed exchange rate has the obvious benefit of transparency – it is easier to observe whether the exchange rate is stable than to assess whether money supply targets are being hit – and is less reliant on technically difficult economic analysis of the kind GRSS and BOSS currently does not have the capacity to execute. It is also, at least in

[5] Strictly, the price level, P, can be written as a geometric weighted average $P = P_M^{\alpha} P_D^{1-\alpha}$ where P_M is the domestic price of imported goods and services, P_D the price of domestic goods and services and α the share of imports in consumption.

[6] This does not, of course, mean that price levels are equivalent; transport costs, monopoly profits and the smallness of the market mean that the Juba price of imported goods is often far in excess of some notional 'world price'. The point, however, is that if this mark up is broadly stationary domestic and world inflation *rates* will be broadly equivalent.

principle, less vulnerable to discretionary actions by the central bank which tend to lead to the so-called 'inflation bias'.[7]

It is this logic that leads to the view that for small open economies such as Southern Sudan a fixed exchange rate arrangement offers the best option for stabilizing domestic inflation. It is a choice adopted, moreover, by a range of natural resource dependent economies including the oil-exporting economies of the Gulf region.[8]

Addressing fiscal discipline: dollarization, currency boards and 'hard' pegs

The gains of a fixed exchange rate regime come at a cost, however. It removes a policy instrument from the authorities' hands and demands that fiscal and monetary policy is subordinated to honouring the exchange rate. If the authorities cannot accept this discipline, parallel exchange rate markets will emerge and undermine the benefits, of transparency and price stability, the fixed rate offers. In the end, badly managed fixed exchange rate regimes can turn out to be much more damaging to economic performance that floating regimes, as the experience of many African countries in the 1980s and 90s clearly demonstrated. The implication is that countries seeking to adopt fixed exchange rate regime may need to look to buttress the institutions of fiscal control. This is exactly what GRSS has attempted to do.

Full dollarization

The most obvious way of fixing the exchange rate is simply to adopt the reference currency as one's own. **Full dollarization** is a feasible and broadly sensible strategy for GRSS, one adopted by a number of small (young) economies and as a transitional arrangement by fragile states emerging from conflict or other crisis (for example, Zimbabwe) that for whatever reason lack or have lost the credibility to issue and manage their own currency.

Dollarization – to the US dollar, for example – delivers price stability in the medium term (even though short-run factors can drive local prices a long way from 'world' or 'dollar' prices) and effectively disciplines the fiscal authorities through the simple expedient of shutting-off the scope for money-financing of the government budget.[9] Governments can, of course, run large deficits financed by debt and through the accumulation of arrears but these are eventually self-limiting (creditors will cease lending to a government that does not repay, while suppliers – including the

[7] Central banks can find it difficult *not* to resort to inflationary financing in the face of pressures from the fiscal authorities. Anticipating this, private agents hold less of their wealth in domestic assets which serves puts upwards pressure on inflation, validating their concerns. Low-income countries running flexible exchange rate arrangements often seek to 'tie their hands' against the temptation to turn to inflationary finance by running policy under the aegis of IMF programmes. The IMF can act as an external agency of restraint against the inflation bias but also provide technical policy guidance on the conduct of monetary policy.

[8] For natural resource economies, calibrating money targets can be extremely difficult if resource-based income is highly volatile, as it is in the case of oil. A fixed exchange rate is, in effect, a conscious decision to 'accept' some real volatility in exchange for price stability for consumers.

[9] We use the term dollarization to distinguish this arrangement from monetary union which presupposes that all sovereign members of the common currency area have some authority over the setting of (union-wide) monetary policy.

suppliers of labour, such as civil servants and the army – will cease supplying goods and services if there is little prospect of being paid). Moreover, by removing monetary policy from the domain of the domestic authorities, full dollarization eases the administrative challenges facing a fledgling government.

There are two immediate downsides to full dollarization, although both are less severe than they might initially appear to be. First, by effectively handing the conduct of monetary policy to an external agency – in this case the US Fed – there is no capacity to use monetary policy for short-term output stabilization. This contrasts with a flexible exchange rate regime where temporary adverse macroeconomic shocks, such as a slump in the oil price, may be met by a (temporary) loosening of monetary policy so as to maintain a smooth path for consumption and non-oil output. In practice, however, the cost of foregoing this option may be small particularly if the capacity to manage a discretionary alternative monetary regime is as limited as it probably is in South Sudan.[10]

Second, full dollarization denies the domestic authorities the seigniorage revenue accruing from the issue of fiat money.[11] Seigniorage can account for a sizeable share of total revenue in low-income countries especially when other tax instruments are limited. Again, however, the loss of potential seigniorage as a result of full dollarization may be illusory since it assumes that the authorities can manage a discretionary monetary regime: the recent economic history of many fragile states illustrates how attempts to extract more and more seigniorage are short-lived ultimately destroy this source of revenue. Again, Zimbabwe is the obvious example.[12]

By precluding domestic fiat money, thereby putting inflationary finance beyond the government's reach, full dollarization delivers an effective medium-run external anchor for inflation.

Deviations from full dollarization

All other anchors entail some compromise of this extreme commitment device. This is most obvious in the case of a conventional **fixed exchange rate peg** where a country issues its own currency but commits to exchange its currency at the pre-announced fixed exchange rate (or rate of crawl) against the US dollar or other currency such as the Euro. A fixed exchange rate arrangement will succeed only if the central bank has sufficient reserves to satisfy the demand for foreign currency *at the fixed rate* and that its commitment to do so is credible: the private sector must believe the

[10] This notion reflects the long-standing 'rules versus discretion' debate about monetary policy which goes back to Friedman in the 1950s and 60s. In an ideal setting, discretionary policy should always be at least as effective as rules; in practice, with weak institutions and imperfect information, discretionary action can often make matters worse, supporting the case for 'second-best' rule-based policymaking.

[11] There are two components to seigniorage. The first arises from the first issue of money -- when the private sector exchanges real goods and services for 'paper' whose costs of production are minimal (or at least substantially less than their exchange value) – and the second from the subsequent devaluation, through inflation, of the outstanding stock of paper currency (inflation means it is less costly to honour future claims against government).

[12] In the short run seigniorage revenue rises with inflation – the inflation tax – but as inflation rises the private sector seeks to economize on their holdings of money (the velocity of circulation rises) which reduces seigniorage revenue. Eventually we observe a flight from domestic money and seigniorage revenue disappears.

authorities' commitment. If reserves are inadequate and the authorities' commitment lacks credibility, the private sector will seek to reduce their exposure to the risk of devaluation by demanding more foreign currency (at the prevailing prices) thereby placing reserves under more stress and precipitating a self-fulfilling run on the local currency which will lead inevitably to repeated devaluation or the emergence of a parallel / black market in foreign exchange.[13]

Lying between these two variants is the **currency-board** which can be seen as an attempt to provide an administrative bolster to fiscal discipline so as to maintain the disciplinary benefits of full dollarization while at the same time enjoy the gains from having a domestic currency.

A currency board permits circulation of a legal-tender national currency at a fixed exchange rate with the reference currency *under the restriction that the domestic monetary base (i.e. the primary financial liabilities of the state) is fully backed by the reference currency*. In other words, the supply of base money cannot exceed the stock of official net foreign assets (i.e. foreign exchange reserves).[14] To ensure this, an orthodox currency board requires that the central bank:

i. extends no domestic credit to government (or indeed any other domestic institutions);

ii. provides no lender-of-last resort facilities to the financial system; and

iii. has no capacity to conduct discretionary monetary policy, except through the management of reserve requirements on banks.

If these restrictions are adhered to, and are believed to be so, the Currency Board can deliver the benefits of full dollarization while maintaining the (cosmetic) benefits of maintaining a national currency.[15] There are real costs associated with maintaining a national currency unit (the central bank functions of security printing; managing the circulation of notes and coins; and managing the retail side of currency issue etc) but the foreign reserve backing of domestic currency generates a flow of interest income that cover some if not all of these costs. For a country like South Sudan, one important advantage of issuing a national currency is being able to calibrate the denomination of notes and coin to the needs of the local currency. There are, however, substantial risks to maintaining a currency board, to which we return shortly after describing the currency board arrangements of BOSS.

[13] Notice that this will occur *even if reserves are sufficient.* As Paul Krugman showed in his classic paper in the late 1970s, what matters is credibility not cash. If the private sector does not believe that the authorities will honour all demand at the official rate, it will precipitate a run. Only if the authorities have unlimited supplies of reserves (which might be the case if they had large lines of credit to other central banks, as is the case in Europe) and are willing to make it extremely expensive to bet against the currency can a government resist a speculative attack. In most cases, the attack will be self-fulfilling Attempts to resist devaluation, by limiting access to the official window, lead to the emergence of a parallel market. See below.

[14] These can include gold and other official assets but typically consist of US dollar and other reserve currency assets that are fully convertible to the US dollar. In principle, the reserves of BOSS also include holdings of Sudanese Pounds although since BOSS has not published accounts it is currently not possible to directly ascertain the extent to which the SSP is backed by net foreign assets.

[15] For the interested reader, Appendix II briefly outlines the monetary theory underpinning a currency board.

It was clear from early on that for GRSS a national currency was seen as a necessary component of the project of defining a separate national identity. Full dollarization was therefore not an option. But since GRSS had no track record for macroeconomic management nor did (or does) it have the institutional capacity to run a credible conventional fixed exchange rate peg, the case for signalling that the fixed exchange arrangement with the US dollar was a 'hard peg' was nonetheless strong. The adoption of a currency-board-like arrangement was thus broadly sensible compromise even though, as we shall discuss, it did entail a significant dilution of the power of full dollarization.

The South Sudanese Pound as a Currency Board

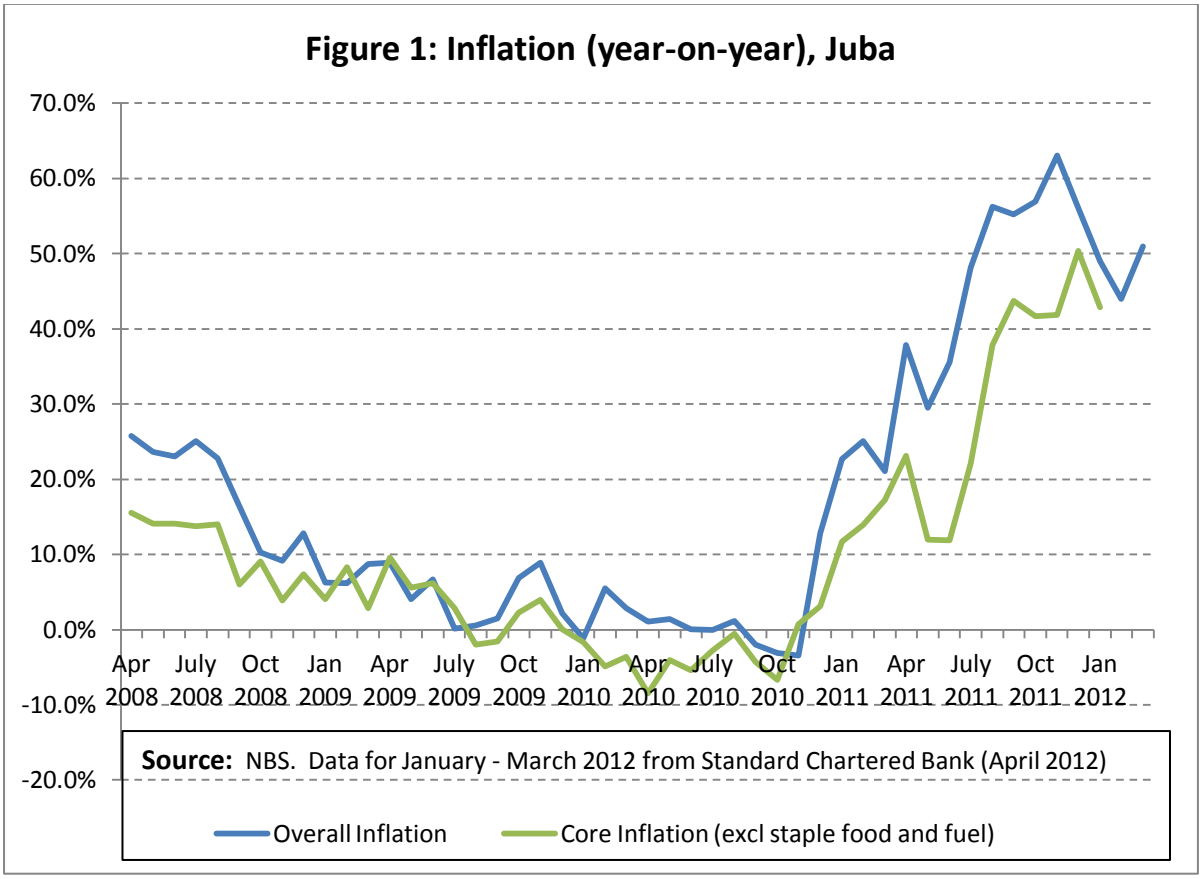
The Bank of South Sudan (BOSS) Act 2011 provides for the key elements to establish a Currency Board, although in doing so it exposes the arrangement to a number of potential weaknesses. Beyond the transitional period – designed to identify a sustainable rate for the Pound – the Act envisages a fixed exchange rate (against the US dollar) underpinned by a zero-borrowing conditions on government and the private sector (conditions *i* and *ii* above). This commitment, which defines a currency board, applies in the medium-term only, however, and is diluted by limited short-term liquidity provisions by the Bank (Articles 54, 65 and 71) although these, in turn, are circumscribed by requirements that credit to the private sector can only be against collateral that itself is fully backed by the reserve asset, and that advances to government cannot be rolled over. Thus, Article 65 provides for advances to government to be limited to the minimum of 5% of previous year gross revenue and 50% of the Bank's capital but requires that "…Each Advance shall…be made solely for the purpose of providing temporary accommodation to the government" (65(3)(d)) and "For at least 6 months of every calendar year, there must be no outstanding liabilities of the Government to the Bank" (65(4)). Taken together, these provisions seek to ensure that in the medium term the BOSS maintains zero net domestic assets and that, as per the standard design, base money is fully backed by the stock of official net foreign assets.

Risks 1: flexibility and credibility

While there may be good reasons for maintaining these short-term liquidity provisions, they nonetheless represent the Achilles Heel of the currency board. By allowing short run liquidity provision, some portion of the currency is therefore 'un-backed' and it is only the credibility of the commitment to unwind short-run advances quickly that preserves the currency board's zero net domestic lending position. The more credible the commitment, the stronger the inflation anchor (in the medium term) and more the central bank can act in a discretionary manner in the very short run, using its short-dated liquidity provisions to avoid otherwise costly interruptions to public and private sector activity. But as with all other systems of 'constrained discretion' credibility depends on the private sector's belief that beyond the very short-run the authorities will indeed act to ensure that its domestic monetary liabilities remain fully backed by reserves. If not, private agents will seek to offload local-currency denominated assets in favour of the reserve currency, precipitating a run on the currency, typically through the parallel exchange rate market as noted above.

If excessive reliance on these 'emergency' provisions is to be avoided, a currency board needs to be accompanied by macroeconomic flexibility elsewhere in the system. This could be through price and wage flexibility in the private sector or through flexible private credit markets, but it may also require a relatively high degree of flexibility in the fiscal regime to allow tax and spending to adjust in response to macroeconomic shocks in circumstances where monetary policy might otherwise take on this role. In practice, however, GRSS has a very limited degree of fiscal flexibility. It has no

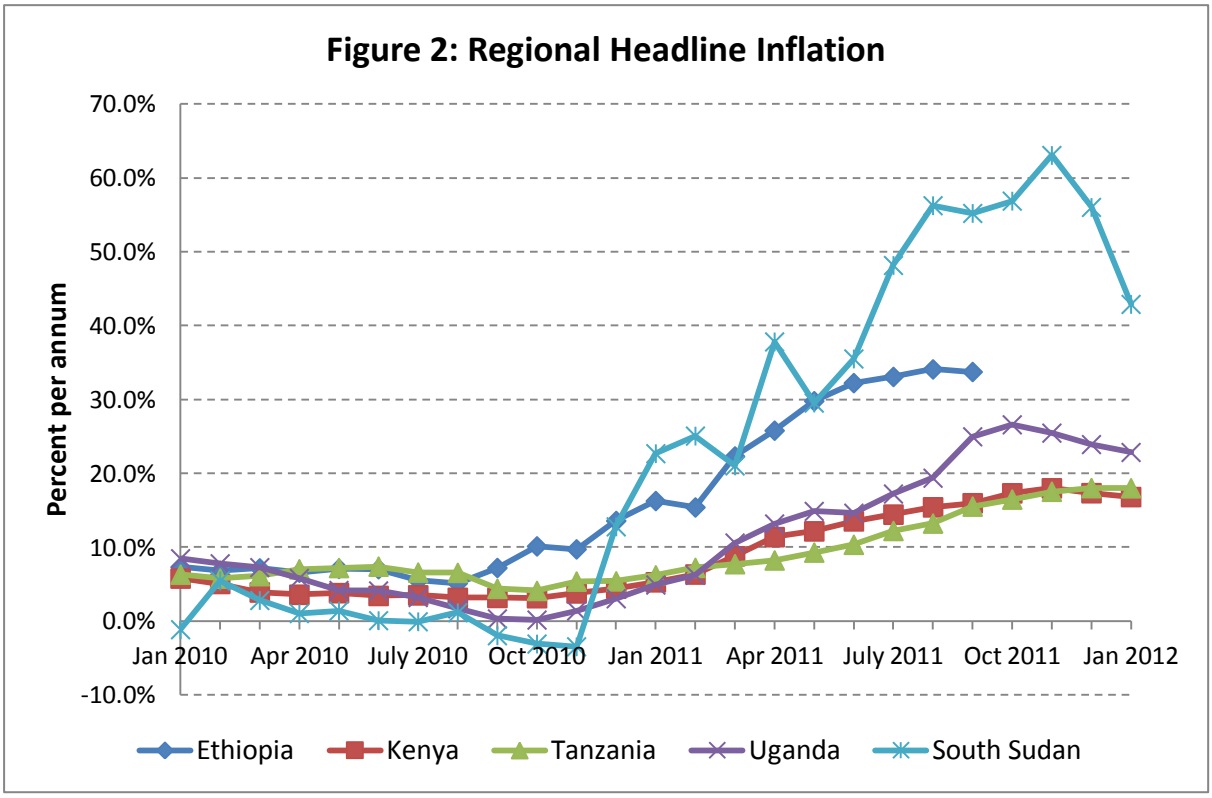
effective non-oil revenue instruments, it cannot access local or international short-term debt markets, and its expenditures are dominated by a large wage bill which is difficult to adjust in the short run, at least without substantial political costs. As is the case in a number of countries, the flexibility it does have is in changing the level of development expenditure which may be an attractive option in the short run but which has well-known long run costs.



Risks 2: the anchor drags – poor inflation performance

If the principal virtue of a pegged exchange rate is to anchor inflation, the currency board arrangement in South Sudan at present would appear to be failing. Inflation (in Juba) has risen sharply since the beginning of 2011 and indeed appears to have accelerated throughout the currency board period (Figure 1). Part of this increase is compositional and part reflects the fact that trade linkages are sufficiently weak that local and regional factors can drive local prices away from 'world' prices for extended periods of time without trade arbitrage bringing them back in line. Thus the Juba price index is overweight (relative to the US consumption basket) in items whose prices are rising rapidly, so that the local price index will exceed the US CPI. This is certainly the case for imported food and fuel. Not only does food account for large share of South Sudan consumption basket but the East African regional price for these foodstuffs have risen very sharply in the last 12 months, even relative to generally high global food price inflations. This has driven inflation higher in Juba in the same way it has helped drive inflation in Uganda, Kenya, Tanzania and Ethiopia to levels not seen for at least a decade (see Figure 2). On top of this, if the transport and distribution

sectors are monopolistic, local prices of staple commodities can be driven even higher when prices are rising.[16]



Risks 3: Imperfect agency of restraint

The final possible explanation for rising inflation is more fundamental and is simply that the currency board is not functioning as designed. Specifically, the fiscal control underpinning the currency board is absent: in other words, the exposed Achilles' heel has been struck. The case for a currency board is built on its ability to *force* discipline on the fiscal authorities by denying the government any recourse to monetary financing of the budget. In extreme cases – such as prevail in South Sudan – where government is unable to borrow domestically or internationally, this means, in effect, that the government must balance its budget (after aid flows). But if government is not prepared to submit to this discipline – for example if short-term liquidity facilities are not repaid according to schedule or other forms of credit are extended to government, from BOSS or through the build up of arrears or other 'un-backed' IOUs – then the currency-board is unable to constrain the fiscal position and its value as an anchor evaporates.

Un-ravelling currency boards and non-credible fixed regimes

If, in these circumstances, BOSS continues to limit access to the official foreign exchange market in order to target the official exchange rate rather than let the exchange rate float, the currency board dissolves and gives way to a conventional fixed exchange rate regime with a parallel market (as

[16] The reason for this is that the monopolist's mark up over cost is inversely proportional to the price elasticity of demand; for essential commodities such as food not only is the elasticity of demand is generally low but it gets lower the more prices rise (because the closer consumers are to subsistence the lower is their price elasticity of demand) and hence the mark-up rises.

discussed below). Domestic inflation will then be driven by the parallel market exchange rate and the official exchange rate will cease to play a macroeconomic role but will function simply as a mechanism for allocating rents. We discuss this form of 'fixed exchange rate with parallel foreign exchange rate market' in the next section.

Summary

From a purely economic perspective, the case for formal full dollarization in South Sudan is strong but for understandable reasons, GRSS wanted the symbolism of its own currency. A workable compromise is a currency board but this requires tight adherence to the 'no-domestic credit' rule if the authorities are to avoid a slip into a poorly-anchored pegged exchange rate regime.

The experience of countries around the world shows that a currency board (and indeed dollarization) will anchor domestic inflation reasonably close to that of the reference currency in the medium term, although local conditions and microeconomic factors – most notably transport and distribution costs and the degree of competition in the local economy – may mean significant deviations in the short run deviations and sluggish adjustment to stable inflation in the medium term.

The same evidence suggests that threats to the currency board come from two sources, on the one hand through distortions from rent-seeking and corruption and on the other from the macroeconomics of large balance of payments shocks. We deal with these in the remainder of this note.

2. The drivers of the black market exchange rate in South Sudan

The Emergence of parallel foreign exchange markets

Parallel foreign exchange systems, in which a market-determined exchange rate coexists with a pegged or managed 'official' rate, used to be widespread in developing countries.[17] In some cases, the parallel market was formal and legalized (e.g. in the case of the Financial Rand in Apartheid South Africa) but often it is 'illegal'. The situation in South Sudan is somewhere between. The market is informal and only just tolerated: individuals are able to trade with bureaux markets but the fringe of informal currency traders faces various sanctions and punishment, including arrest.

A parallel market can emerge for two main reasons. The first is if foreign exchange transactions attract specific taxation; the parallel market premium in these circumstances will tend to be a stable mark-up on the official rate proportional to the tax rate. The second, relevant here, is when the authorities manage their pegged exchange rate by limiting access to the official exchange rate window, restricting it to either certain classes of transaction or certain agents.

Dual rates are not intrinsically a bad idea but are extremely difficult to operate on a sustainable basis. They have been advocated in the past, notably in the transition by OECD countries to floating rates in the early 1970s and again through the 1980s and 90s as a way of protecting international reserves from capital outflows and insulating traded goods prices (to the extent they are traded in

[17] See, for example, M.Kiguel, S.Lizondo and S.O'Connell *Parallel Exchange Rates in Developing Countries,* London: Macmillan 1997).

the official market) from external shocks. The intuition is as follows: in a unified system, a fixed exchange rate can be honoured only if the central bank has sufficient reserves (either owned or borrowed) and is prepared to use them to satisfy all demand for foreign exchange at the prevailing exchange rate, regardless of whether the demand is for current account or capital account transactions. Essentially this requires a sufficient quantity of reserves and a sufficiently credible macroeconomic stance to neutralize fears of a run of the currency.

If the authorities ban official capital account transactions, by assigning them to the parallel market, this limits official intervention only to meeting current account transactions so that balance of payments shocks which otherwise might precipitate an incipient capital outflow do not lead to a loss of reserves. Rather these shocks spill over onto the parallel market, depreciating the parallel rate and driving up the premium. Official reserves are thus protected at the expense of prices. If balance of payments shocks are modest and temporary, current account prices are still more likely to reflect the official exchange rate.

This, at least, is the theory.

In practice, such systems have rarely functioned quite so effectively. Parallel markets provide temporary relief at best. In the face of sustained or repeated balance of payments crises the illegal market will tend to grow in importance as the authorities tighten and extend controls rather than reducing aggregate spending or devaluing or both to stabilize the official exchange rate. As matters get worse the central bank is often tempted to start restricting the list of current account transactions that can take place at the official rate, thereby decanting even more activity to the parallel market. And as exchange controls cover more and more transactions the exchange rate system becomes highly distortionary. Capital controls discourage FDI; the official exchange rate becomes severely overvalued, discouraging non-traditional export growth (in South Sudan, all non-oil export activity) and import-substituting domestic activity; while the rising premium encourages illegal trade, creating incentives to move exports from the official to parallel channel and vice versa for imports. This worsens the official trade balance, putting further pressure on reserves, and further encouraging the growth of the parallel market. Moreover, the fundamental objective of a fixed exchange rate – price stability – is undermined. Imported goods are priced in the local economy at the parallel market exchange rate (with those able to import at the official rate reselling at the parallel market rate and capturing the rent) and these higher import prices tend to pass-through quickly to domestic prices. Ultimately, the inflation rate is determined by the parallel market exchange rate…as if the economy were operating a floating exchange rate.

At this point, the official exchange rate ceases to play any role in determining the balance of payments and the price level and begins to function solely as an implicit tax/distribution instrument from those importing at the parallel rate and surrendering export earnings at the official rate to those importing at the official rate and exporting or re-selling at the parallel market rate.

In summary, parallel exchange rates tend to be self-limiting in their effectiveness – they may provide some insulation in the short-run but only by setting up enough distortions that they are damaging in the long run. Unification is inevitable. We can imagine this going in two directions. Unification may entail a move to an even harder peg – in other words a transition to full dollarization / monetary union – or towards a managed unified exchange rate. We return to the question of exchange rate unification later.

The premium

The parallel market premium is determined by flow factors and stock factors. On the flow side, the parallel market exchange rate moves to equate the demand for and supply of foreign exchange. Demand comes from importers otherwise blockaded from the official window, from those seeking to externalize their wealth and from those able to re-sell in other markets[18], while the supply is from net allocations from the central bank, inflows from under-invoiced export proceeds, over-invoiced import allocations from the official rate, remittance inflows etc.

On the stock side, the premium can be thought of as an asset price that jumps in response to shifts in the differential *expected* returns from holding domestic currency and foreign currency assets. For example, if private agents expect higher inflation, lower interest rates or increased taxation of domestic assets (including the risk of expropriation) they will seek to shift their portfolio towards foreign assets; this demand shift will drive up the parallel rate and, for a given official rate, the premium. The key feature of this stock perspective is that, as in all asset markets, the price – i.e. the premium – is liable to jump sharply in response to new information or to changes in sentiment. When stock factors dominate, parallel market exchange rates tend to exhibit high volatility and sudden jumps.

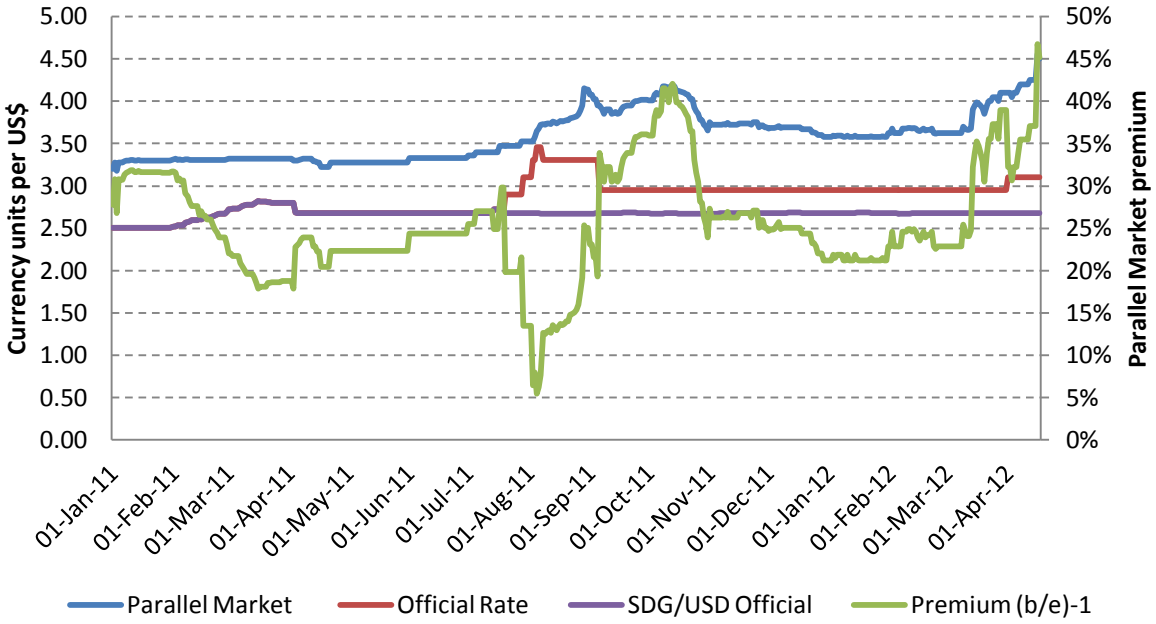
The exchange rates and parallel market premium in South Sudan

The textbook currency board should not, in principle, play host to a parallel market: with full reserve backing, domestic and reserve currencies should exchange at a fixed rate without any premium and any difference between the official exchange rate and the market rate will reflect standard commission charges only. The fact that a dual market exists reflects the combination of a set of *microeconomic factors* which generate an exchange rate premium and opportunities for rent-seeking and a set of *macroeconomic factors* which reflect the mutation of the currency board into a more conventional fixed exchange rate. Appendix I presents the argument formally. Here we discuss the policy implications.

Figure 3 shows the evolution of the official and parallel market bilateral exchange rates with the US dollar over the period from 1 January 2011 to 19 April 2012. For reference we also include the SDG/US$ exchange rate. The short history of the SSP is characterized by four phases.

[18] This assumes, of course, that arbitrage opportunities exist elsewhere. It is suggested that such may be the case in Sudan; we do not have independent evidence on this point.

Figure 3. Bilateral exchange rates with US dollar and premium
January 2011-April 2012



Phase I: unification. The first few weeks following the introduction of the South Sudanese Pound involved a short period of 'finding its level' during which time the authorities conducted a set of foreign exchange auctions letting the demand for foreign exchange determine the official exchange rate. This phase directly echoes the steps other countries in Africa took toward exchange rate unification in the mid-to-late 1990s. During this phase – which ran from 20 July to 8 August 2011 -- the parallel rate depreciated by around 6% and the official rate by 19%, with the result that the premium declined to around 5% as convergence progressed. A premium of 5% or less would normally be considered as effective unification.

Without detailed data on either the balance of payments or the balance sheet of BOSS it is not possible to offer a detailed interpretation of what was driving the depreciation in the parallel market rate during this episode. In part the premium may have reflected the 'risk' associated with holding the new, untested, currency but the gradual depreciation of the parallel market rate was consistent with the inflation differential between South Sudan and its main trading partners.

Phase II: re-imposing control and divergence. Between the end of the auction phase in early August until mid-October, the authorities exerted control over the official rate and engineered a 10% appreciation to SPP2.95 / US$ on 6 September 2011. This occurred against a background of a steady depreciation of the parallel rate, resulting in a sharp increase in the premium, from its low of 5% to around 42%.

Phase III: stability. The period from October 2011 through until March 2012 was one of remarkable stability in the parallel market rate, as a consequence, the premium. The premium dropped sharply in October 2011 at the time when the Eurozone crisis worsened and investors fled to the relative safety of the US dollar. One implication of this shift was that as the US dollar strengthened so did any currencies pegged to the dollar. Thus for a brief period, the South Sudan Pound appreciated sharply against the Kenyan and Ugandan shillings. Since imports from Kenya and Uganda represent a significant share of South Sudan's total imports, the consequent decline in the demand for US dollars is reflected as an appreciation of the parallel market rate.

But the striking feature of this phase is the stability of the premium, including over the period since the 20 January announcement that oil production would be halted.

Phase IV: depreciation. Finally, in the current the parallel market rate began to depreciated and, with the official rate remaining more or less constant, the premium has jumped to around 45%- 50% over the official rate, its highest level since the introduction of the SSP in July 2011.

Interpreting the evidence I: ignorance, switching costs and monopoly

This evidence raises two important questions: the first is why the premium remained so stable during the period to March 2012 and why only then did it jump so sharply? Most striking was the lack of response at all to the announcement in January of the shut-down of oil production? Portfolio or stock effects would predict a sharp depreciation in the premium as soon as the oil shut-off was announced. Why did this particular dog not bark?

But even if portfolio effects play a relatively weak role in driving the parallel market premium, we would nonetheless expect the current account or flow market to respond more decisively than it did to evolving expectations about the future. Faced with an expected tightening of the market at some point in the future we would expect both the demand and supply sides of the market to respond. Importers will seek to bring forward import purchases while suppliers will withhold sales to the market, with both forces leading to a depreciation of the parallel market rate. The body of empirical evidence on parallel foreign exchange markets elsewhere to suggest that participants in parallel foreign exchange markets are forward-looking so that the market premium generally responds very rapidly to changing expectations.

One possible explanation for the lack of response in South Sudan is ignorance: market participants simply did not respond because they did not fully comprehend the implications of the oil shut-off. This is unlikely. A more plausible alternative is that market participants simply don't hold any local-currency denominated assets in which case shifts in expectations have no effect of their behaviour: in other words market players have fully dollarized their financial wealth and are 'at a corner'. But since some SSP-denominated assets are still being held other factors must be in play, the most likely of which is that this class of asset-holders face sufficiently high transactions costs that they are

unable, or not yet able, to liquidate their local-currency assets even if they wish to do so.[19] But the key point is the 'not yet': transactions costs may be high but not infinitely so which means that once expectations of a depreciation become large enough the parallel rate *will* move, possibly sharply and by a large amount. This may well be what we have seen in recent weeks.

Monopoly and market-capture

A final explanation for this behaviour may lie in the nature of the market. The simple textbook model of the parallel foreign exchange market assumes a large number of competitive players, on both sides of the market. If, instead, we think of the supply-side of the market as being controlled by a small group of oligopolists, sitting between the official window and retail end of the parallel market -- who have the power to control prices in the parallel market, we are more likely to observe period of relative stability interspersed by periodic adjustments, *despite underlying volatility in supply*. The analytical point – the so-called 'kinked demand curve' -- is developed in Appendix II but the essential idea is that oligopolists face an incentive to keep prices stable. No individual oligopolist will raise their price (of foreign exchange) because of fear that they will lose customers to other players in the market, nor will they lower their price for fear of triggering a price war with the other bureau which will reduce profits for them all. The key implication is that this stable outcome will persist even in the face of potentially sizeable shifts in the supply of foreign exchange onto the market (i.e. from BOSS via the official window to the parallel market). Large shifts in supply – as are likely to emerge in due course in South Sudan -- would translate in to abrupt changes in the premium. Hence we might expect to see protracted periods of stability punctuated by occasional large shifts in the premium.

These oligopolistic players thus set the price on the parallel market at a level that allows them to extract the rents from their preferential access to the official market. This oligopoly co-exists with a price-taking competitive retail fringe of small foreign exchange traders. In this environment the (closed) oligopolistic cartel are setting prices and extracting the rents while the small traders are price takers (at the parallel market rate) providing pure retail services with the general public.

Interpreting the evidence II: loss of fiscal control and the erosion of the currency board.

The foregoing analysis depicts the premium in South Sudan as a fundamentally microeconomic phenomenon emerging from the manipulation of a thin and unsophisticated retail spot market for foreign exchange by a core of powerful bureaux owners who enjoy access to the wholesale market (the official window) and are able to earn supernormal profits from on-lending these funds, either to final importers or the fringe of small-scale currency dealers. This interpretation leads to policy recommendations that focus bringing more competition to the market, and breaking the apparent cartelization of the sector, particularly in its access to the official window. We return to these policy issues in Section 3.

This micro interpretation is probably the right way of thinking what has happened through the first eight months of so since independence *and the associated policy implications remain relevant*. But it would appear that the parallel market what is increasingly likely that the parallel exchange rate is being driven by more conventional macroeconomic factors. This interpretation concedes that the

[19] For example, they make face high costs of liquidating deposits in the banking sector, although this raises questions of why these deposits were made in the first place. Typically, civil servants paid by direct deposit into bank accounts are the 'captive' sector in the market.

currency board arrangements are unable to fully discipline fiscal policy so that the exchange rate regime in South Sudan mutates into a conventional exchange rate peg.

Recall that under the rules of a currency board the authorities ensure the domestic money supply contracts proportionally with the reduction in foreign exchange reserves. If this does not happen, a portion of the base money supply is 'un-backed' and the regime is thrown back into a regime where the defence of a fixed official rate relies entirely the credible implementation of fiscal and monetary policy. In these circumstances, the premium will be determined by the extent to which the authorities use controls on access to the official window to hold the official rate at a more appreciated rate than market conditions would dictate.

Elimination of the premium in this case essentially requires a willingness to let the official rate float, usually through the combination of progressive relaxation of surrender requirements on exporters and the contraction of the 'negative list' for imports (i.e. those goods that cannot be imported through the official window) and the introduction of high-frequency auctions to establish a market rate (as was the case for a brief period in August 2011).

But the critical point is that successful exchange rate unification requires much more than simply letting the official exchange rate float. This may, indeed, eliminate the premium, but on its own it leaves the economy without a nominal anchor for price stability. Successful exchange rate unification requires the authorities to implement a coherent monetary framework based on a credible monetary anchor which, in turn, requires a substantial and credible degree of fiscal discipline. The relevant question for South Sudan is whether the political commitment and technical capacity to run such a system. If not, there is a very real risk that the economy is characterized by a short sharp burst of inflation followed by *de facto* dollarization that sees the domestic currency disappear. We return to this in the final section of the paper.

Exchange rate unification

When parallel foreign exchange markets are entrenched, the domestic price level tends to be determined by the parallel and not the official exchange rate, particularly when the import share in consumption is high. In a number of countries attempts at unification led to further depreciation of the parallel rate and rising inflation (see for example Pinto, 1989).[20] This tended to happen when the government was a net purchaser of foreign exchange (for example, where governments were heavily indebted and major purchasers of fuel) in which case the depreciation of the official rate worsened the budget (in local currency terms). Without an offsetting fiscal adjustment, the government was then forced into increased monetization, driving up the premium even further. By contrast, when governments were net sellers of foreign exchange, as is the case of oil producers and large net aid recipients, exchange rate unification will tend to improve the budget: the more depreciated the official exchange rate the larger the local-currency 'profit' on foreign exchange sales. This 'profit' directly reduces the budget deficit, allowing for a reduction in money financing and hence a reduction in inflationary pressures. This mechanism was central to a number of very successful exchange rate unification episodes in the late 1980s, most notably Uganda (see Morris,

[20] Pinto, B (1989) "Black Market Premia, Exchange Rate Unification and Inflation in Sub-Saharan Africa" *World Bank Economic Review* 3(3) 321-348.

1995).[21] The key point, in both cases, is the self-reinforcing nature of letting the official rate adjust. If the fiscal position is unfavourable, unification triggers a vicious spiral of rising prices and rapid depreciation until offsetting fiscal adjustments are implemented; if the fiscal position is favourable we get a virtuous spiral of falling inflation and a strengthening local currency. Some comfort may be drawn from the fact that GRSS is currently a net seller of foreign exchange so that exchange rate unification would be budget-improving and would help to restore price stability. But two conditions must hold. The first is that devaluation gains are not instantly monetized through higher expenditure elsewhere. And the second is that government indeed remains a net seller of foreign exchange. If oil proceeds dry up and reserves are exhausted, government may well become a net purchaser of foreign exchange in which case the dynamics of unification switch sign and demand even tighter fiscal contraction if price stability is to be restored.

3. Dual Exchange Rate Regimes: rent seeking and corruption

Multiple exchange rate regimes typically involve non-market allocation rules and thus inevitably create rents. These may accrue to government and allocated through public expenditure processes, but the same rents create opportunities for corruption (i.e. the appropriation of public resources for private gain) as well as generating incentives for unproductive behaviour, although many of the latter are not directly corrupt. These non-market rules determine which transactions are conducted at the official exchange rate and which market participants are entitled to trade at the official exchange rate window. It is the re-sale of on the parallel market of foreign exchange acquired at the (over-valued) official exchange that generates rents that are shared between those who control and those who gain access to the official window.

In South Sudan today, these are often one and the same individuals, many of whom are government officials and closely linked to the political elite. These rents are a direct appropriation of some portion of the value of export earnings and, in effect, act as private tax, diverting public resources into private pockets. The 'victims' of this corrupt activity are those who would otherwise have benefited from public expenditure. The configuration of public spending in South Sudan – in which aid does not pass through the budget -- means much of 'conventional' public service provision is off-budget and shielded from this 'tax'. In practice, the cost is borne principally by those in receipt of government salaries, that are lower than otherwise would be the case and, of course, by those that would have otherwise benefited from a higher level of budget expenditure.

When aid passes through the budget it too is directly 'taxed' under dual exchange rate regimes (exactly as oil resources are in South Sudan) and in many instances this implicit taxation has led to the end of budget support programmes (as in Zimbabwe in the late 2000s). But since aid to South Sudan generally does not pass through the budget it escapes the more egregious elements of taxation. As a result, the off-budget provision of public services by donors and the NGO sector also shields the poor to some extent from this particular rent seeking activity.

[21] Morris, S (1995) "Inflation Dynamics and the Parallel Market for Foreign Exchange" *Journal of Development Economics.*

The scale of rents

There are a number of ways of estimating the scale of losses to the budget through this form of corruption. The relevant basis is the non-import expenditure of government. Under the austerity budget, monthly spending for the remainder of 2011/12 is targeted at SSP 650million of which approximately 45% is accounted for by imports. Applying the prevailing premium of around 25% to the non-import budget suggests a cost to the budget of around $24 million per month (12% of total expenditure), or around 2.2% of GDP. [22] This is a very substantial amount: to put it in perspective, were the premium to drop to the 5% level achieved towards the end of the auction phase in August 2011, rents would drop from around US$30 million per month to US$6 million or 3% of total budgetary expenditure.

We arrive at a similar estimate by noting that present rules permit each of the 12 commercial banks to purchase US$2.5 million per week and each of the approximately 80 bureaux to purchase US$0.2 million per week, together totalling US$46 million per week (approximately US$140 million per month). We do not know how much of this is re-sold to clients at the parallel market rate but if we assumed that all of it was (so that all the rents accrued to the banks and bureaux) and that the premium is in the region of 25 percent (see Figure 5 above) this would again imply a flow of rents of just over US$30 million per month.

The important point is that it is precisely at this node that corrupt behaviour exists: it is the collusion between those setting the official rate and allocating public resources at this price. It is here where we would expect to see corrupt behaviour in the allocation of licences to forex bureaux and it is where anti-corruption policy needs to be targeted.

Beyond this point, what we observe is a range of 'tax avoidance' forms of behaviour, the most prominent of which is mis-invoicing. When banks and bureaux allocate foreign exchange against import documentation, this creates incentives for importers to over-invoice for goods and services, either to finance a greater volume of imports or to on-sell in the fringe foreign exchange market. Incentives also exist within the public sector procurement mechanism to mis-invoice or otherwise inflate import costs (so that excess foreign exchange allocations or, indeed, imported consumer goods can be re-sold through the parallel market). It is commonplace to observe the authorities operating dual rates to focus on these activities as corrupt. But they are symptomatic rather than causal factors and will wither away with exchange rate unification. They should not be the primary focus of policy.

Microeconomic policy responses

As we have noted, dual exchange rate systems inevitably generate rents; the policy objective is to ensure that these rents are captured by (and effectively allocated through) the public budget rather than being appropriated by corrupt activity. The central point is that the system is characterized by high rents for those who set the official rate and own the banks and bureaux combined with a lack of competition in the retail market.

[22] Based on the analysis of national income and the budget provided by Anthony Harris (ODI Fellow), which estimated GDP in 2010 of US$13.2 bn.

The challenge for donors is how to avoid 'capture' at the official exchange rate window and promote greater competition at both points in the market. The first step is to restore an open and transparent auction system through which foreign exchange is sold which allows for the 'rents' from the dual-rate system to be captured by government. [23] As the evidence from August 2011 suggests, if the authorities are willing to let the official rate adjust in line with the auction-established rate the premium could be compressed to a level where the implicit tax is moderate and the distortions engendered by a high premium eliminated. Second, to ensure auctions are not captured by a small group of oligopolists, BOSS might seek to open access to the official window to a wider range of players. If The risk remains, however, that given the small size of the market, this may fail to break the hold the powerful local elite have on the market and may not be sufficient to avoid the collusive behaviour in the market that currently keeps the official rate too low. An alternative might be to recognize the intrinsic lack of competition or effective competition policy in the market and actually *restrict* access to the official window to a smaller but more easily regulated group of players. For example, it might be possible to exclude the current bureaux owners from the official window and limit access exclusively to large, more easily regulated commercial banks, at least some of which are international. The smaller number of large banks may be easier to monitor (and certainly those foreign banks may be less willing to be seen to be manipulating the market). Under this arrangement bureaux would be required to access their supplies of foreign exchange from the banks rather than the central bank. Any deviations between the 'street' rate of exchange and the official rate would, in this case, reflect conventional mark-up and spread factors (of the kind that prevail across all economies). Assuming that abuse of monopoly power by the banks can be limited more effectively, the parallel market rate *as a microeconomic distortion* is likely to disappear. Whether this is feasible or not still depends on regulatory capacity. The evidence from the earlier era of parallel markets in Africa suggests that banks themselves are not at all averse to acting as a cartel.

How the behaviour of the bureaux (and banks) in how they allocate foreign exchange spills over into the realm of competition policy and consumer protection. Whilst the development of competition and consumer protection regulation may be desirable in the medium term, it is clearly impractical at the present moment, although pushing for greater transparency in both the wholesale and retail markets may still be worthwhile.

Success in tackling the problem at this node will result in the other apparent distortions in the market dissolve. As access to the market improves, the incentives to mis-invoice trade will diminish and fewer resources will be devoted to the unproductive business of rent seeking around the parallel market.

To conclude, the elimination of rent-extraction by those able to access the official exchange rate window should be the main purpose for reform of the market. The objective would be primarily to ensure that if rents do exist they accrue to the extent possible to the budget. If the authorities were

[23] There is an enormous literature on auction design, too voluminous to review here but the dominant form is the so-called 'Dutch Auction' in which bids for foreign currency are ranked by price and settled at the bid-price starting from the highest price bid. The price on the marginal bid (the one that clears the market) is then taken as the official exchange rate until the next auction. The Dutch Auction ensures that each bidder pays for their foreign exchange at their bid price, no matter by how much this exceeds the marginal price. This transfers the full consumer surplus to the government budget. An alternative would follow the same descending-bid structure but each bidder would pay the same marginal price for their foreign exchange, in which case the surplus accrues to the infra-marginal bidders.

genuinely operating a currency board, such reforms would effectively eliminate the premium (as it almost did in August 2011). But if the currency board is actually being gradually replaced by a conventional fixed exchange rate regime, the premium is unlikely to be eliminated unless the authorities pursue full unification with a supporting fiscal configuration. We turn to this issue in the final section.

4. Summary: engaging on the question of the exchange rate regime.

The choice of exchange rate regime and its effective management is clearly central to putting in place a coherent macroeconomic framework for South Sudan. It is probably not the first order of business at present – re-establishing peace, securing the state, managing latent tensions between a diverse set of ethnic interest groups and, of course, rescuing the oil export sector must, logically, take precedence. Moreover, as recent history suggests, progress may be slow.

Given this, the scope for engagement on questions of exchange rate policy should probably be modest, long-term and based around a 'do no harm' principle. In this spirit, DFID should be pushing for an exchange rate regime that is transparent, place as little administrative burden on the weak state as possible, and it should offer few opportunities for corruption so as to support the transfer of resources to the poor. Finally, it should be reasonably robust to the effects of major economic crises (we touch on this issue in Section 5).

In this context, this paper has led to a number of conclusions that are relevant to the formulation of policy advice on the conduct of exchange rate policy.

First, full dollarization probably comes closest to meeting these criteria. However, given that from the start this option was discounted by the leaders of the new state, choices were made which confronts the economy (and donors) with a regime which is much harder to operate.

Second, once we move away from full dollarization the success of *any* exchange rate regime will rest on the degree of fiscal control that underpins the monetary and exchange rate framework. Only with adequate fiscal discipline does it make sense to discuss monetary and exchange rate policy options since no exchange rate regime can deliver price stability if undermined by lax fiscal systems. Donor engagement on issues of transparency and corruption in the foreign exchange market in a system that is fundamentally unstable will not have much of an impact on delivering the ultimate objective of price stability.

Third, given this, the basic design of the currency board arrangement anticipated in the Bank of South Sudan Act is sound. It offers a coherent way of pursuing a fixed exchange rate regime in a young natural-resource dependent economy but possibly more importantly it serves as a disciplining device on the fiscal authorities. Compared to a floating rate regime, the transparent rules of the currency board place only a limited burden on the central bank and fiscal authorities. Moreover, these rules can help to empower fiscal technocrats against the excessive spending inclinations of the political elite.

Fourth, over the first eight to nine months of the life of the new country, the premium in South Sudan appear to reflect microeconomic factors, in particular powerful monopoly forces amongst the political elite who control access to the official exchange rate window. As a result the parallel market premium is high but not (yet) exorbitant and not as high as it might become if weakening fiscal control erodes the currency board rules and moves the system closer to a conventional pegged exchange rate regime.[24]

If we are confident that the basic currency board structure can persist, the objective of donor engagement policy should be to address the first-order sources of rent-extraction by focusing on the rules and procedures at which transactions at the official rate works and promoting greater competition in the market for foreign exchange more generally. Crucially, donors should encourage a new round of exchange rate auctions to 're-set' the fixed rate against the dollar but should remain comfortable with the authorities intention to run a fixed exchange rate regime built around a currency board arrangement.

5. The oil shut-off: exchange rate adjustment under different regimes

If, however, the discipline of the currency board has already been eroded, matters become more complicated. Unless the authorities can gain control over the fiscal programme, it is likely there will be significant pressure on domestic inflation and the exchange rate. Attempts to operate a fixed exchange rate regime in these circumstances are unlikely to be successful. But exchange rate unification and the move to a floating rate will only support price stability if backed by sufficient fiscal control. In either case, there is a non-trivial risk that the system reverts towards *de facto* dollarization. As economic conditions worsen, this outcome is increasingly likely.

As many commentators have noted, the consequences for the balance of payments of the oil stand-off shock are likely to be devastating and whilst it may be possible to sustain some public expenditure over the short run – as anticipated by the austerity budget for the remainder of 2011/12 -- government reserves will be exhausted sooner or later. It is beyond the scope of this paper to consider the full fiscal and political economy ramifications of the shut off, but it may be worth giving some consideration to the likely implications for the exchange rate regime.

Given the enormity of the balance of payments crisis any exchange rate regime adopted by South Sudan is going to be put under enormous stress. The economy's adjustment will require the *real exchange rate* to depreciate. Box I lays this out formally, but the analysis can be skipped. The key point is that If the economy is hit by a severe adverse shock, the real exchange rate must depreciate, probably by a large amount. How this is brought about depends on the nominal exchange rate regime. If the nominal rate floats, then it must depreciate; if the nominal rate is fixed, the domestic price level must *fall.* The key point is that the implications are stark regardless of the nominal exchange rate regime and come down to the same thing: unless there is some offset to the loss of oil revenue, adjustment to the external balance shock must come from an exceptionally tight squeeze on domestic expenditure. Let's first consider the dynamics under alternative regimes.

[24] In the late 1980s and early 1990s the parallel market premia would often exceed 1000% percent prior to unification in countries such as Uganda, Ghana, Zambia and Tanzania.

Box 1. Real Exchange Rate Adjustment

The real exchange rate is the ratio of domestic and foreign prices expressed in a common currency. It is defined as $e = \frac{EP^W}{P}$ where *E* is the nominal exchange rate (in local currency units per US$) , P^W is world price level and *P* the domestic price level. In logs, we can write the real exchange rate as

$$e_0 = E_0 + p_0^W - p_0$$

where an *increase* in *e* denotes a depreciation and the subscript *0* denotes an initial value. Other things equal the weaker the balance of trade the more depreciated the real exchange rate needs to be ensure a balance of payments equilibrium. For natural resource dependent economies the real exchange rate tends to reflect conditions in the resource sector, appreciating when oil prices and production are high and depreciating when either or both decline.

If the economy is hit by a severe adverse shock, the real exchange rate must depreciate, probably by a large amount. Assuming the world price level does not change, and letting the new equilibrium real exchange rate be denoted e_1 , the required adjustment in the real exchange rate can be expressed as

$$(e_1 - e_0) = (E_1 - E_0) - (p_1 - p_0).$$

To effect the required depreciation (increase) in the real exchange rate, either the nominal exchange rate must depreciate, or the domestic price level must *fall* or some combination of both.

Floating Rate

Under a float, the nominal exchange rate will initially depreciate to bring about the real depreciation. However this real depreciation can only be sustained if the domestic price level does not rise in line with the nominal depreciation. What this requires, of course, is a contraction in aggregate demand to keep prices in check. This expenditure contraction will be easier if the exchange rate depreciation also stimulates non-oil exports (the expenditure switching component of devaluation) and will be harder the larger the import component of consumption and the more complete the pass-through from import prices to domestic prices (see section 1 above). Neither factor works in South Sudan's favour; non-oil exports are nugatory and are probably constrained by factors other than price competitiveness, while the import content in consumption is high.

If domestic prices do rise, the nominal exchange rate will depreciate further to re-establish the required real depreciation, and if the authorities are unable to engineer a sufficient expenditure contraction, there is a real prospect of a spiral of rapid depreciation fuelling rising inflation and further exchange rate depreciation. The end-game is hyperinflation and dollarization.

A currency board

Under the textbook currency board arrangement, the nominal exchange rate would not adjust, throwing all of the adjustment onto the domestic price level. The mechanism here would be as follows: as the balance of payments worsens and reserves fall, the money supply contracts (recall all domestic money is backed by foreign reserves) which in turn squeezes aggregate demand. This

squeeze will continue until balance of payments equilibrium is restored, albeit it at a very low level of aggregate spending (and hence fewer imports).

A 'broken' currency board.

However, in the case where the currency board is 'broken' so that there is some domestic money creation, the dynamics will be exactly as in a float except that it will be the parallel market exchange rate that depreciates (with inflation following the parallel rate) and the premium rising. Again, unless expenditure is severely contracted the same end-game ensures.

Can the South Sudan Pound survive the oil shock?

Only in the case where the currency board continues to function as per its original design, or if the authorities can establish sufficient and credible control over spending, is there the chance that the South Sudanese Pound will survive the crisis. But this is going to require an almost unimaginable degree of fiscal tightening. More likely, regardless of the exchange rate regime, the authorities will be unable or unwilling to reduce public expenditure far enough or fast enough to stabilize the exchange rate (even at a more depreciated level). As a consequence, even if progress is made on improving transparency and corruption, we are likely to see a rapid depreciation of the parallel exchange rate combined with rising inflation, whether or not the authorities seek to unify the rate. If perceptions that government is unable to bring inflation under control in these circumstances there will be a further flight from the Pound into the Dollar and we will see the economy slip back into a combination of barter and *de facto* dollarization as the Sudanese Pound goes out of circulation.

As was seen in the recent example of Zimbabwe, *de facto* dollarization does not, of course, bring relief to the economy as a whole. It does not eliminate the real squeeze on expenditure -- since it merely entrenches or automates the currency board mechanism – so a severe recession will still ensue but it does eliminate many of the opportunities for corruption and rent-seeking and, in doing so, may improve future prospects for foreign investment and other capital flows (including aid) which may ease the balance of payments squeeze.

APPENDIX I

The exchange rate premium under a currency board and a conventional market.

In this appendix we discuss the simple analytics of parallel foreign exchange markets. We start with the conventional case where the authorities choose a fixed official rate E_0 and we consider the determinants of the premium. We then look at the specific case of a currency board to show how the rules of the currency board would normally drive the premium towards zero.

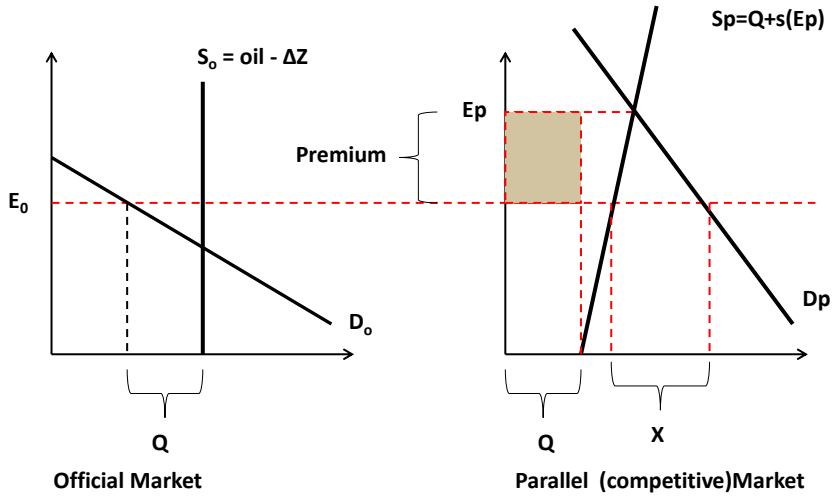
The conventional fixed exchange rate case

Figures A1 to A3 illustrate the conventional case. Figure A1 is drawn for the case where the parallel market is assumed to be competitive. The left panel defines the quantity of foreign exchange supplied by the authorities to the market as the difference between the supply of foreign exchange earnings accruing to government and government's own foreign currency demand. Hence supply, denoted *Q* is the net official balance of payments surplus (the difference between oil export revenue and government and government-agency import demand) augmented by a drawdown of accumulated reserves (the ΔZ term). We assume, for convenience, that this supply is exogenous and independent of the official exchange rate; hence the supply curve is vertical. This net volume constitutes the base supply to the parallel market but may be augmented by additional price-elastic supply (i.e. from private agents or the owners of forex bureau). The market clearing rate on the parallel market is E_P which co-exists with excess demand *at the official rate* in the amount of *X*.

Note that those agents who acquire *Q* at the official rate and sell it on to the parallel market at E_P earn rents equivalent to the shaded area in the left pane (Rents = $Q * (E_P - E_0)$).

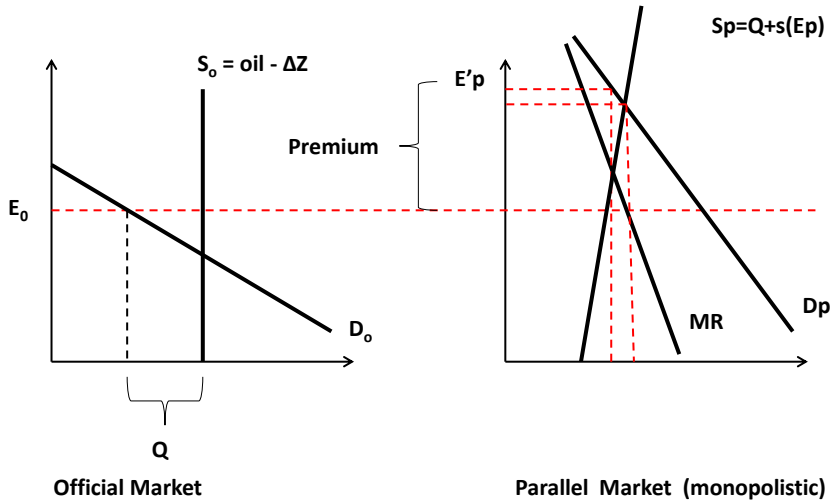
It follows that negative shifts in official supply – if oil earnings decline or reserve drawdowns are exhausted – which reduce Q, the intercept of the parallel market supply schedule or outward shifts in parallel market demand, will increase the premium.

Figure A1: A competitive parallel market



It follows that adverse shifts in official supply greater that *Q* requires either a depreciation of the official rate or a corresponding shift in official demand or some form of rationing of *official* import demand.

Figure A2: A monopolistic parallel market



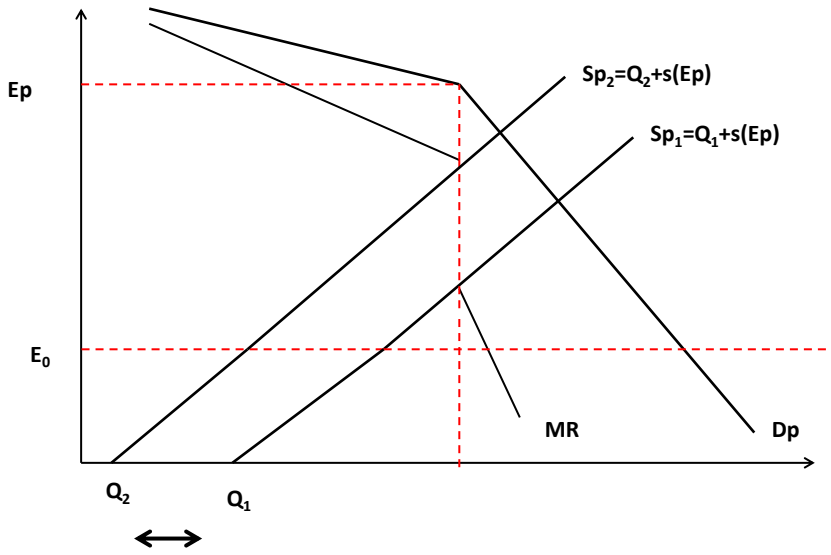
If the parallel market is monopolistic the premium will be higher as the monopolist maximizing profits by setting marginal cost equal to marginal revenue (Figure A2), with the premium reflecting the monopolist's mark-up over marginal cost. Recall from the standard model of monopoly pricing that this mark up will be inversely proportional to price elasticity of demand for foreign exchange on

the parallel market. With few import substitutes in the market, this is likely to be relatively low and the mark up correspondingly high.

Oligopoly and the stability of the premium

Standard economic theory suggests that, compared with competitive markets, oligopolistic markets are characterised by price stability in the face of shifts in supply – a feature often described in terms of the so-called 'kinked demand curve' shown in Figure A3. The essential idea behind the kinked demand curve is that each oligopolist's demand curve will be kinked around the (current) price: from this position no player will raise their price because of fear that they will lose customers to other players in the market, nor will they lower their price for fear of triggering a price war with the other bureau which will reduce profits for them all.[25] Shifts in the supply of foreign exchange over the range Q1 to Q2 will not lead to a change in the market premium. Larger shifts in supply would translate in to changes in the premium. But as long as large shifts in supply do not otherwise de-stabilize the cartel of oligopolists the 'kink' in the demand curve will shift to a new price and quantity configuration and the process will repeat. Hence we might expect to see protracted periods of stability punctuated by occasional large shifts in the premium.

Figure A3 Oligopoly in the parallel market (official market suppressed)



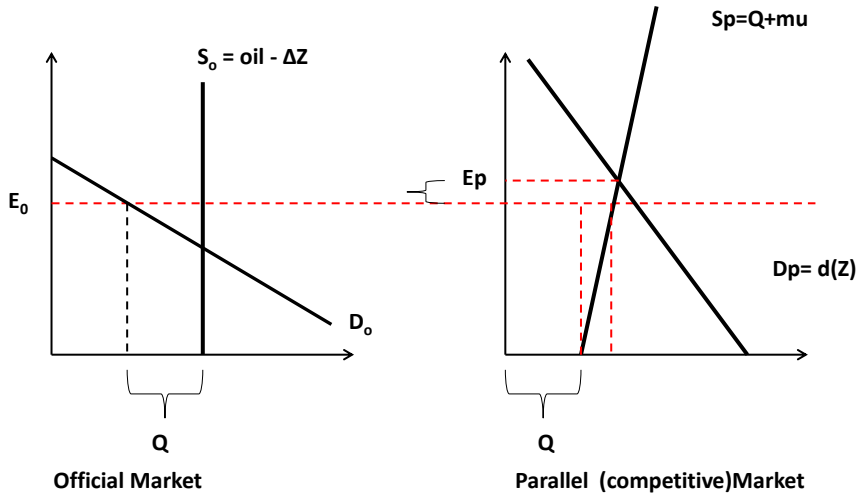
The premium under a currency board

The essential feature of a currency board is the set of rules that limit the growth of the money supply and thus tie aggregate demand to the balance of payments surplus. In terms of figure A4, this implies that the demand function for imports is itself a function of the level of net foreign assets, *Z*. Higher levels of net foreign assets correspond to a higher domestic money supply and greater demand in the economy and *vice versa.* The point is that as the supply of foreign currency shifts, so

[25] This explanation, of course, abstracts from what determines the location of the kink.

the demand shifts. In this case a deterioration in the balance of payments shifts both the supply curve and the demand curve to the left keeping the price on the parallel market equal to (or at least very close to) the price on the official market. As drawn, the presence of a small premium in this case is likely to reflect microeconomic factors (mark-ups and commissions etc). [26]

Figure A4: The Premium under a Currency Board



[26] In this configuration, we can think of the initial 'finding the level' phase of the currency board in South Sudan as the process by which the official rate was determined to ensure that the parallel market 'cleared' at (approximately) the official rate.