Mugabe's monetized budget deficit: The epitome of Zimbabwe's economic tragedy?

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Abstract

This paper addresses two possible reasons for Zimbabwe's hyperinflationary environment at the beginning of 2007. The investigation found that the main determinants of inflation in Zimbabwe were parallel market premium movements and, especially, the change in money supply growth caused by quasi-fiscal-activities (QFA) carried out by the Reserve Bank of Zimbabwe. Furthermore, the paper suggests monetary systems that can be adopted by Zimbabwe in order to restore economic stability and growth and replace its failed experiment with central banking. The advantages and drawbacks of various monetary regimes are reviewed, given that the present multicurrency system is considered to be a tentative agreement. The paper argues that some form of official dollarization would have substantial benefits. Arrangements using the Zim- dollar as the exclusive means of payment could be unstable in the absence of substantial credibility.

Keywords: Hyperinflation, Quasi-fiscal deficit, Cagan, Dollerization, Parallel premium, Zimbabwe

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Introduction

"*A good currency is not sufficient for growth, but a very bad currency is so destructive that it can wreck an entire economy.*"
Hanke (2008)

Although it is generally agreed that hyperinflation can be avoided, it continues to appear around the world. Zimbabwe's hyperinflation represents the first such episode in the 21st century (Hanke, 2008). Since 1998, Zimbabwe's economy has been on the road to ruin. A combination of an adverse political climate and unwise economic decisions brought about hyperinflation whose impact on the economy was so severe that it caused two-digit negative growth rates, a disintegration of the markets, negative real interest rates, shrinking capital stock and a dramatic fall in the value of the local currency. Zimbabwe's hyperinflation induced an economic collapse, forcing the majority of its inhabitants to survive below the poverty line and leading millions of Zimbabweans to emigrate.

The term hyperinflation refers to a very high, accelerated rate of inflation. Cagan's (1956) widely adopted view is that "Hyperinflation occurs when average prices rise more than 50% a month"(p. 25). It is an inflationary cycle without any inclination towards equilibrium. In other words, it is inflation that is out of control, and causes a rapid devaluation of a currency as a means of exchange. According to Hanke (2008), Zimbabwe first breached the hyperinflation benchmark in March 2007, with a monthly inflation rate of 76.70%, which kept rising until the introduction of the multiple currency system (MCS) in February 2009 put a halt to it (BBC, 2009a). The destruction caused by hyperinflation has only appeared in cases where the supply of money has been governed by a discretionary paper currency with no natural constraints. Thus, it is important to investigate the root cause of hyperinflation in Zimbabwe.

The objective of this paper is therefore to study the role of money supply as one of the main causes of Zimbabwe's hyperinflation. Furthermore, the paper explores various alternative currency regimes that could be adopted in the short and medium term, in order to consolidate economic stabilization and recovery in Zimbabwe once the multi-currency system has been suspended. The paper proceeds as follows: the next section reviews the recent history of events and highlights the key elements that contributed to hyperinflation in Zimbabwe. It is followed by a section that deals with the actual and

the measured Consumer Price Index (CPI), followed by an overview of Zimbabwe's current economic situation. Next is the section that provides arguments for the adoption of a particular currency regime out of the various options available. The final section concludes the paper by recommending that Zimbabwe adopt dollarization as a measure for stabilizing the economy.

Zimbabwe's transition to economic ruin

This section of the paper discusses some of the salient features of Zimbabwe's economic performance during the peak of its crisis in the 2000s. It also examines the most significant contribution to the hyperinflation that occurred.

Land reform policy

The road to hyperinflation in Zimbabwe began in the early 2000s, shortly after the country initiated the fast-track land reform programme aimed at confiscating white-owned farmland, often through the use of force and with no compensation. The land was redistributed to landless party supporters and war veterans, most of whom had no farming experience and were inefficient at managing the land (Njaya and Mazuru, 2010). The poor land management caused a serious decline in agricultural production, and in agriculture's contribution to the gross domestic product (GDP) of the country (Figure 1). The result was that there were severe food shortages. The collapse of the agriculture sector had a contagious effect on other sectors which were highly dependent on the agriculture sector, such as machinery and transport. The manufacturing sector, primarily based around agro-processing that was dependent on large-scale inputs from the agriculture sector, experienced a similar decline in the growth of its output (Figure 2).

Other ramifications of Mugabe's land reforms include severe shortages of basic commodities, which in turn led to inflationary pressures, with an increase in the annual inflation rate from 55 percent in 2000 to over 400 percent in 2004 (IMF). This type of inflation is known as "demand-pull" inflation, typically occurring as a result of an increase in aggregate demand or a decrease in aggregate supply, or both.

Figure 1: Real GDP growth (annual % and Agriculture (% of GDP)

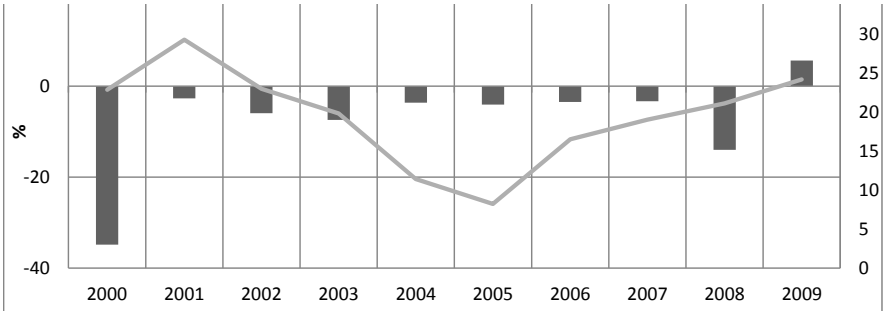
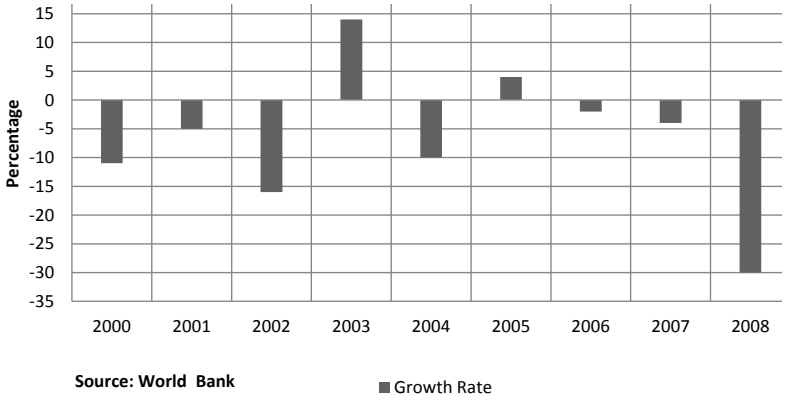


Figure 2: Manufacturing output growth rate 2000 - 2008



Source: World Bank

The Resurfacing of the parallel/black market premium

Although foreign currency shortages have been a perennial economic problem for Zimbabwe since its independence, the severity of the problem worsened in the 2000s. The development of an adverse balance of payments in 1997, caused by rising domestic inflation and the increasingly artificial overvaluation of the domestic currency, led to the deterioration in competitiveness of the country's domestic products on the world market. The loss of Zimbabwe's competitiveness, combined with the collapse of the tobacco and wheat sectors that had been Zimbabwe's main generators of foreign currency (Figures 3, 4 and 5,) resulted in a significant drop in the country's export performance from 2000 onwards (Figures 6 and 6a) and, consequently, led to a sharp drop in the inflows of foreign currency. The shortage of foreign currency undermined the import of raw materials and aggravated the shortage of basic commodities. In response, the central bank introduced widespread controls on imports and capital account transactions, banned foreign currency accounts and forbade foreign companies from repatriating their profits (Admos, 2009).

Figure 3: Tobacco, total production and growth rate

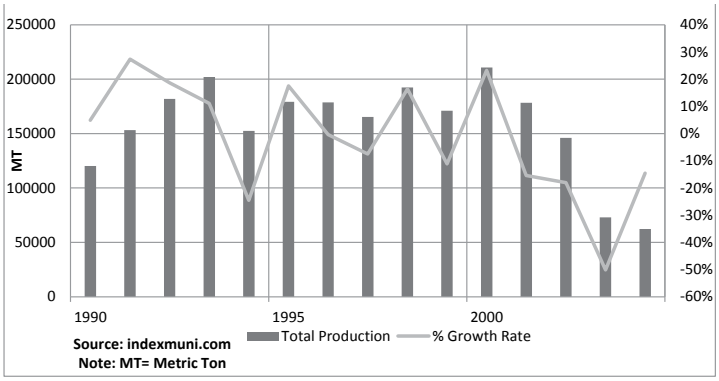


Figure 4: Tobacco exports (US$ Millions)

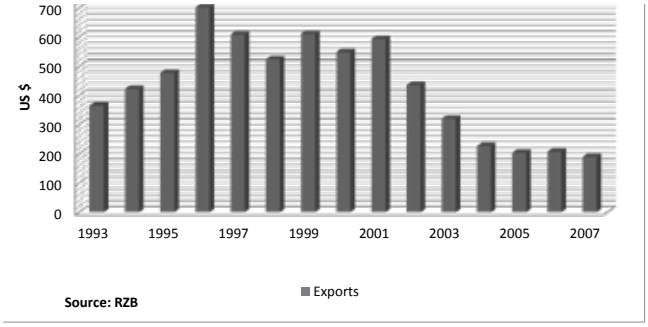


Figure 5: Zimbabwe's wheat production and growth rate

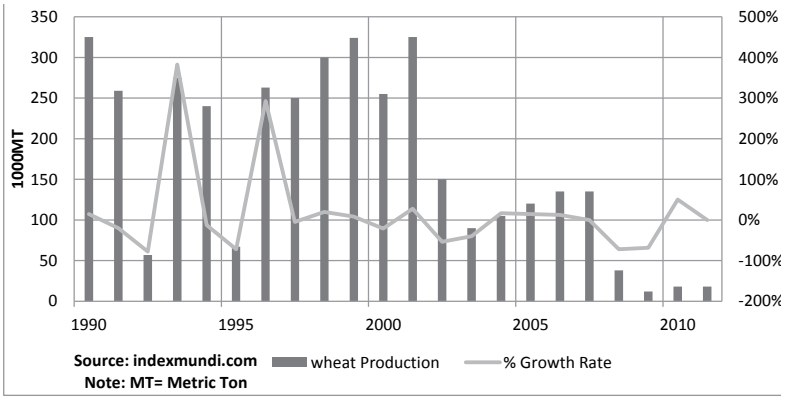


Figure 6: Export and import performances of Zimbabwe 1990 - 2010 (US$ Million)

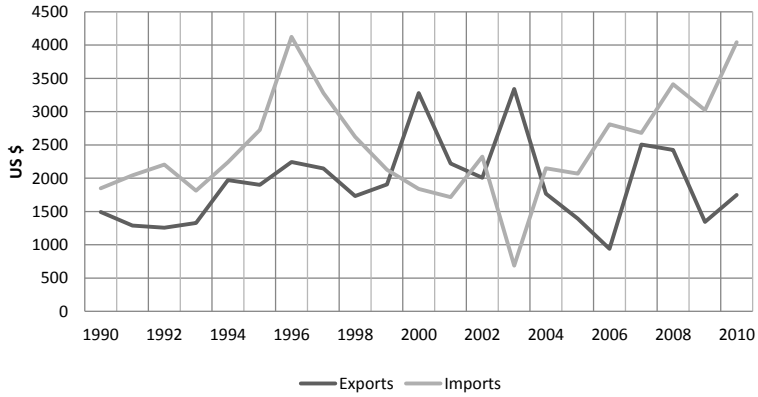
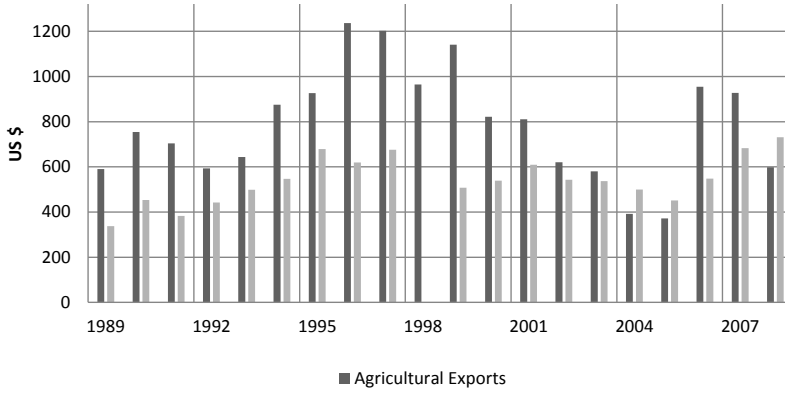


Figure 6a: Agricultural and manufactural exports (US$ Millions)



Source: http://stat.wto.org/StatisticalProgram/WSDBViewData.aspx?Language=E

These measures resulted in an evaporation of foreign investment in Zimbabwe from US$400 million in 1998 to US$51 million in 2008 (Figure 7) and added to the foreign currency problem, which was further exacerbated by sanctions and trade embargos (Olivia, 2008).

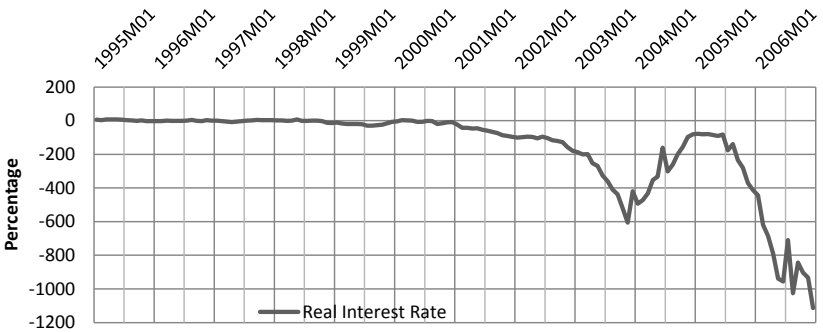
The cumulative effect of these policies was a reduction in foreign exchange reserves from their peak of US$800 million to less than US$200 million by the end of 2008 (Figure 8). The severe shortage of foreign currency led to a substantial rise in the parallel black market premium[1] to such an extent that it reached its highest level in December 2002. A heavily managed auction system that took place from 2004 to 2005 led to a dramatic decline in the parallel market premium. However, it then began to rise once more due to the growing gap between the demand and supply of foreign currency (Figure 9). This rise in the parallel market premium, combined with supply shortages,

had further pernicious effects on inflation[2].

Figure 9 also shows the fact that the parallel market premium rate moved almost simultaneously with the inflation rate from 2006 onwards. Generally, the evolution of the macroeconomic effects of exchange rate movements are subject to delays in the price transmission, as it appears to have been the case prior to 2006. However, in the early stages of a hyperinflationary spiral, with a rapidly devaluing currency, the pass-through effect from imports onto domestic prices could be expected to be faster, especially in a situation like that of Zimbabwe where, for the most part, the parallel market rate was used as a proxy for the inflation rate due to significant data collection issues from the beginning of 2006.

In order to arrest the rate of inflation, President Mugabe's response, based on a common misconception, was to impose wage and price controls (BBC, 2007b). This, however, led to an extremely high demand for the price-controlled goods, which resulted in further shortages of many products as businesses subject to price controls found that producing them was no longer profitable. This shows that even an absolute dictator such as Mugabe is subject to the laws of economics.

Figure 10: Real interest rate (monthly 1995 - 2006)



Source: IMF, International Financial Statistis, RBZ

Furthermore, major discretionary government expenditure included the following items: unbudgeted for gratuities to war veterans in 1997 (Tapera, 2000), intervention in the Democratic Republic of Congo's war in 1998 (Kuda, 2007), controversial land reform of 2000, parliamentary (2000/2005) and presidential elections (2002), increases in the salaries of government staff and the payment of arrears (Geoff, 2003).

Despite rising expenditure, combined with falling domestic tax revenues (the Olivera-Tanzi-effect; Olivera, 1967; Tanzi, 1977)[3] and the inability of the government to borrow, the average fiscal deficit, between 2001 and 2005 was below 5 percent of GDP (Figure 11). This implies that Zimbabwe's authorities resorted to seigniorage[4] as a way of financing the government's budget deficit.

The monetization of the government deficit meant that seigniorage made up a large proportion of total revenue. Figure 12 shows that seigniorage rose from 9 percent between1993 and 1997 to more than 40 percent between 2003 and 2007, and eventually became the government's most important source of domestic revenue in mid-2006. Furthermore, the Reserve Bank of Zimbabwe's (RBZ's) balance sheet of February 2008 (Table 1) reveals that the Quasi-Fiscal-Activities (QFAs) went far beyond conventional central banking functions. Other investments and loans included subsidies, (in the form of free foreign exchange services for public enterprises), price support for exporters, (to partially compensate them for an overvalued exchange rate), and subsidized credits offered to troubled banks during the banking crisis of 2004. It is also noteworthy that many assets and liabilities were classified as "others" on the balance sheet (RBZ, Monthly Review, 2008).

Table 1. RZB balance sheet, February 2008 (in trillions of Zimbabwe Dollars)

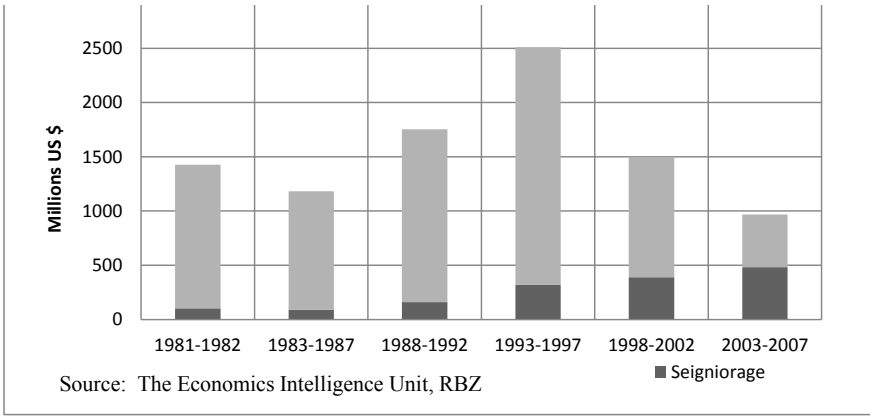
Assets		Liabilities	
Gold	0.3	Notes and coins in circulation	857.8
Other foreign assets	4.0	Bankers'deposits	898.8
Treasury bills discounted	0.0	Government deposits	0.0
Other bills discounted	0.0	Other deposits	29.9
Loans to government	53.9	Foreign loans	17.2
Other loans	29.7	other	64.2
Investments (government stock)	0.0	Capital and reserve	0.0
Other investments	355.5	Other	0.0
Other	1517.2	776.2	
Total	2444.3	Total	2444.3

Source: RZB, Statistics Monthly Reviews (April 2008), pp.26-27, www.rbz.co.zw

Figure 11 depicts the growth in the money supply as the underlying monetary dynamic driving the chronic and endemic hyperinflation. The annual inflation rate rose from 25 percent in 1997, to a peak of 630 percent in 2004, before falling sharply to 170 percent at the end of 2004 (RBZ, Annual Report, 2007). Zimbabwe's inflation began rising dramatically again, reaching 50 percent per month (equal to an annual rate of 12,875 percent) in February 2007, marking the start of a hyperinflationary period for the country. Paradoxically, although inflation began falling in March 2004, broad money growth only started to decelerate in July 2004. Empirically, inflation usually lags, rather than leads, deceleration in money growth, as price and wage expectations are likely to be based partly on the historic inflation.

Moreover, expectations about the future monetary stance are likely to respond inertly to shifts in the observed rate of growth in the money supply. The consequence is that alterations in monetary policy will only translate slowly into changes in the rate of inflation. This implies that, in Zimbabwe, prices during this period were responding to other factors besides the changes in the monetary policy. One potential reason for this situation is that it was not the anticipation of a tight monetary policy that led to the fall in inflation but rather the expectation of low inflation owing to the confidence people had in the new governor of the RZB. Figure 12 shows that the increase in Zimbabwe's inflation was more due to the considerable QFAs (monetized deficits) of the RZB than to conventional government budget deficit spending.

Figure 12: Decomposition of government revenue, averages from 1981 - 2007



Source: The Economics Intelligence Unit, RBZ

The domestic price series could include some bias due to difficulties concerning data collection and the implementation of appropriate price updating techniques. Due to budget constraints at the Central Statistical Office of Zimbabwe (CSO), there was a three-year delay in the implementation of a budget survey (finally carried out in 2001) to establish an updated basket of goods for the Consumer Price Index (CPI) (Tara, 2009).

Furthermore, severe food shortages caused by the fall in agricultural production, such as the decrease in maize production, which accounted for the majority of food production, combined with Mugabe's price control policy, led to a shortage of basic commodities in formal retail outlets throughout the country (BBC, 2007c). As a result,

measuring a representative basket of goods was difficult. Moreover, the inclusion of controlled prices and the exclusion of goods traded on the parallel market also adversely affected the quality of the measured CPI (BBC, 2007d). Therefore, there are differences between the actual and the measured CPI. As a result, CPI was used to set price expectations in conjunction with other price series such as the parallel market exchange rate, which was readily available at high frequencies on a daily basis (Hanke, 2009).

Zimbabwe's current situation

Zimbabwe's economic decline reached its peak in 2008, with an unemployment rate of 95 percent (Figure 13) and a GDP growth rate at its lowest since independence (Figure 14). Hyperinflation had climbed to such heights that it was necessary to print a large amount of additional currency to finance a relatively small increase in spending. The crucial question now is how this phenomenon of ever-rising prices can be stopped.

In a hyperinflationary environment, ordinary policy mechanisms, such as increasing reserve requirements or interest rates, are ineffective; more drastic strategies are necessary. One such measure was taken on 30th January 2009, when Zimbabwe tackled the inflation problem by abandoning the domestic currency and replacing it with strong foreign currencies, mainly the US dollar and the South African rand (Bloch, 2009). This action signalled a clean break from the practices that had caused hyperinflation in the first place.

The multicurrency system (MCS) had a number of advantages. First, it aided the re-monetization of Zimbabwe's economy as well as financial re-intermediation. It made fiscal discipline imperative by debarring the inflationary financing of the government budget. Secondly, it brought increased transparency to pricing and accounting. As a result, the price level in US dollars fell during 2009, with negative inflation rates experienced in some months, while the economy started to recover and grow again, albeit at a slow rate (RBZ, Annual Report, 2010). Furthermore, revenues began to recover, largely due to price stability, although to date they have not yet reached the levels recorded prior to the decade of economic decline (Figure 16).

The major challenge for Zimbabwe now is the choice of which monetary regime to impose once the multicurrency dispensation is over. The next section discusses the pros and cons of each system in order to argue for why one is mor suitable than others.

Figure 14: Unemployment rate (%)

Figure 15: GDP growth (annual %) 1990 - 2010

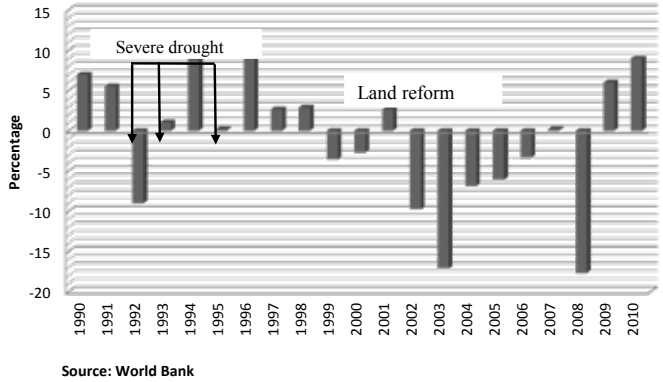
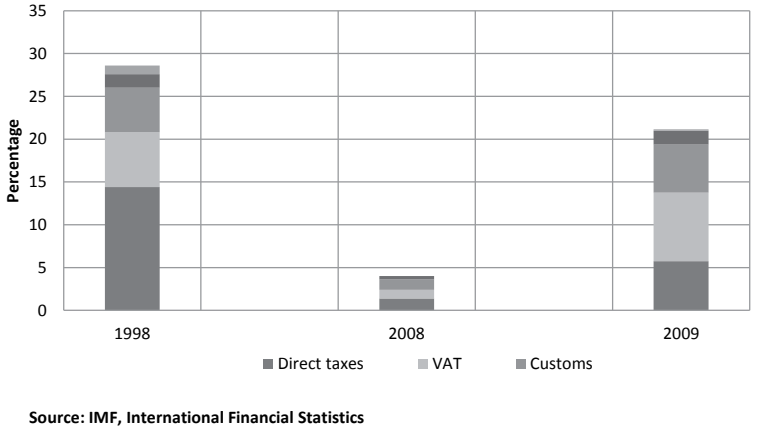


Figure 16: Zimbabwe's total revenue, 1998 - 2009 (% of GDP)



The adoption of a monetary regime

Dollarization[5]

The first option for replacing Zimbabwe's domestic currency is the official dollarization. Under official, full dollarization, the domestic monetary authorities are only able to increase the domestic money supply by generating more foreign exchange, which is done by running a balance of payments surplus. The monetary base (notes and coins in circulation, plus bank reserves) is determined by the anchor country, whereas the monetary base is held by domestic citizens. In other words, if people want to acquire more dollars, they need to spend less, ceteris paribus (Hanke, 2008).

Dollarization can be a credible option as it deprives the government of its money-printing, inflationary power to finance fiscal deficits, as well as implicitly implying an irreversible institutional change. The approach signals a commitment to low-inflation, fiscal responsibility, and transparency. This is especially important for Zimbabwe, a country that has not enjoyed price or fiscal stability in the past.

Further advantages of dollarisation include the fact that financial integration with an anchor country forces domestic financial institutions, through competition with the anchor country, to enhance their efficiency and the quality of their services (e.g. by improving their products and customer services) in order to attract more customers. Additionally, the well-established reputation of the anchor currency can lower the level and volatility of domestic interest rates (real and nominal) and can achieve immediate credibility by eliminating devaluation risk. This, subsequently, cuts the cost of servicing public debt and reduces fiscal costs. Moreover, a stable currency brings confidence and motivates investors (domestic and foreign) to participate in a country's long-term capital market (Alberto and Barro, 2000). Finally, the transaction costs involved in international trade and investments are lowered, as there is a reduced need for currency conversions.

On the negative side, an officially dollarized country relinquishes its independence and autonomy in terms of monetary policy, and "imports" the monetary policy of the country whose currency it uses. It is unclear whether the dollarizing country's specific circumstances are taken into account when monetary decisions are made in the anchor country. In Zimbabwe, however, the loss of an independent autonomous monetary policy could benefit the country and help it achieve low inflation.

Moreover, any possibility of adjusting the country's exchange rate, including the use of central bank credit to provide liquidity support to its banking system as the 'last resort lender' in emergencies, has to be relinquished under this approach. This leads to a potential liquidity risk, making bank runs more likely in times of economic stress. However, experience has proved such fears to be unfounded. For example, financial and banking crises have affected all major developed countries with central banking systems. Moreover, countries that have implemented dollarization escaped banking crises, their banking sector tended to become firmer over time, as the firm stance not to bail out the banking system seems to have solved the moral hazard associated with such a practice (Carlos, 2003). Dollarization normally minimizes or eliminates the need for international reserves. So, a percentage of the central bank's dollar assets can be devoted to a public stabilization fund for institutions under stress.

Another option is the use of tax revenues (and/or seigniorage if available) to build a contingency fund over time. Therefore, the disadvantage resulting from the renunciation of the role as "lender of last resort" and thus not being able to provide liquidity support to the banking sector in the case of financial distress, should not be considered a serious drawback for Zimbabwe. But a dollarized country can loose seigniorage to the anchor country, unless some kind of sharing agreement is put in place. Furthermore, the acquisition of the initial stock, when the country lacks sufficient foreign reserves to buy up their domestic currency, can add indirect costs. The dollarizing country could be forced to accumulate the reserves through current account surpluses if it is unable to borrow them. Zimbabwe's foreign currency reserves have been depressed for a number of years. However, international creditors such as China have pledged to provide $20bn in credit to Zimbabwe in the course of three years (BBC, 2012).

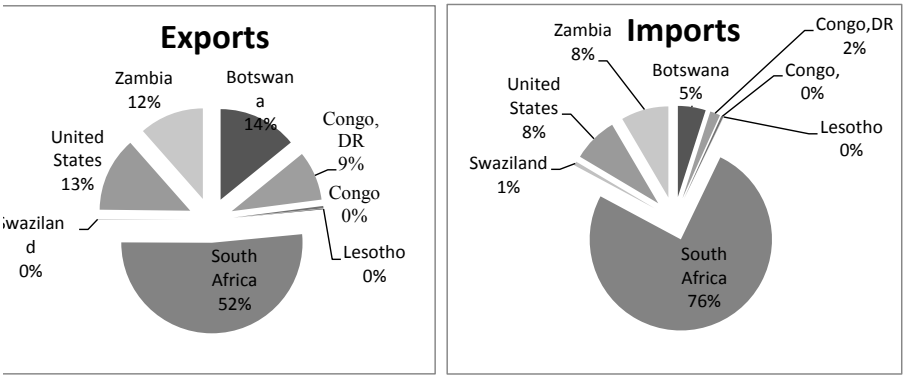
Optimum currency area (OCA)

The key decision to be made under an official dollarization approach is the choice of an anchor currency. This section proposes the US dollar and the South African rand as potential candidates for anchor currencies in Zimbabwe. The advantages and disadvantages of opting for a specific currency depends on whether Zimbabwe and the anchor currency country fulfil the criteria for forming a single OCA (Mundell, 1961). Some of the criteria are discussed below.

Openness and trade within the region (McKinnon criterion)

On average, between 1990 and 2010, 52 percent of Zimbabwe's exports have gone to, and 76 percent of its imports come from SA. In contrast, Zimbabwe's trade with the US contributes only a small share of its total imports and exports (Figure 17). Furthermore, given that SA is its main trading partner, and given the popularity of the US dollar as the exchange medium, movements in the exchange rate between the US dollar and the SA rand have had considerably adverse effects on Zimbabwe's competitiveness and inflation (*The Financial Gazette*, 2011). Therefore, adopting the South African rand would not only reduce trading costs but would also reinforce economic integration and foster trade with SA and those countries whose currencies are pegged to the rand. This enlargement in trade would be due in part to the absence of exchange rate fluctuations, which would contribute to a lower real effective exchange rate volatility.

Figure 17: Geographic distribution of Zimbabwe's imports and export, averages 1990 - 2010



Source: IMF, Direction of Trade Statistics

Labour mobility within the region (Mundell criterion)

High unemployment might put political pressure on the central bank to exploit its monetary policy instruments to encourage employment as opposed to the primary objective of ensuring stable prices. High labour mobility gives the unemployed the opportunity to emigrate to countries where labour is in short supply, thus enabling the central bank to conduct an independent monetary policy. Zimbabwe's unemployed have been moving to South Africa for more than 10 years. A recently published paper showed that approximately one million Zimbabweans (more than 10 percent of the population of working age) were living in South

Zambia	274	718	577	540
Others	159	271	366	407
AMERICA	231	292	366	431
Canada	26	35	89	92
United States	202	248	257	301
Other	3	9	20	38

Source: Central Statistical Office - Zimbabwe, 2005

Shocks affecting the region (Kenen criterion)

An OCA is said to be optimal when the impact of asymmetric shocks is small. OCA theory implies that any two countries experiencing symmetric shocks, and trading bilaterally, should fix their exchange rates or share a single currency. Any adverse demand shock would spread across the region with no need for the real exchange rate between the countries to change. Consequently, a shared central bank policy would suit both countries equally.

A statistical analysis of synchronized output disturbances imply that shocks to Zimbabwe's economy have not been correlated with those to the US economy, whereas the evidence is non-uniform in the case of SA. The analysis of correlated output disturbances show no statistically significant correlation of shocks to output for the entire period (1977-2000). Zimbabwe benefited from a fast post-independence growth, whereas SA was subject to international sanctions during the 1980s, when the country was under an apartheid government. However, the two countries seem to have had comparatively synchronized shocks during the 1990s, when both benefited from an era of relative economic stability (Vitaliy, 2010).

Fiscal transfer criterion

Fiscal transfers from abroad could act as insurance, mitigating the cost of an asymmetric shock. Although at present there is no formal mechanism for fiscal transfers between South Africa and Zimbabwe (nor is there across the common monetary area (*CMA*)[6]), the Southern African Development Community (SADC)[7] has a revenue-sharing formula that favours smaller member countries. Furthermore, South Africa has adopted an attitude of solidarity, and is therefore more likely to contribute to the well-being of the union. This contrasts with John Bowden Connally, President Nixon's Treasury Secretary, whose proclamation, "the American dollar is our currency, but your problem"

illustrates indisputably the unwillingness of the US to take the concerns of other nations, which share or use the dollar as a reserve currency, into consideration when formulating its monetary policy.

One argument in favour of choosing the US dollar is that the cost of a transition to formal US dollarization would be minimal, given its popularity in Zimbabwe (Neil, 2011). The US dollar could also potentially enable Zimbabwe to modify its terms of trade, given its small economy.

The critical question, however, is how long the dominance of the US dollar as a reserve currency would last. In the wake of the financial crisis of 2007/08, and the debt problems that both the US and the EU are facing and their inability to deal with them. There is some doubt as to whether the US dollar and the euro (assuming it survives) will ever again be the strong currencies they once were.

Common Monetary Area (CMA)

Additional benefits can be derived from CMA membership (without reintroducing the Zimbabwean dollar (ZD)). A strong argument in favour of the rand is that Zimbabwe and SA (even in the absence of Zimbabwe's CMA membership) could potentially agree on sharing seigniorage whereas no such agreement is being offered by the US or the EU (Bogetic, 2000b). Before independence, Zimbabwe (then called Southern Rhodesia) used the rand successfully, with a profit-sharing agreement, in the late 1920s (Hanke, 2008). Such an agreement and the resultant monetary union, if it is politically backed, can strengthen the credibility of the new monetary regime in Zimbabwe.

Debrun, Masson, and Patillo (2005, 2009) compare CMA membership to a currency regime with some margin for monetary policy discretion, and conclude that there would be a substantial gain for Zimbabwe if it acquired a CMA membership, whereas the well-being of present CMA members would recede slightly. In other words, Debruin et al's model indicates that CMA membership would be more beneficial than an independent currency. This is because most of the gains for Zimbabwe would emerge from enhanced fiscal discipline arising from the loss of monetary policy.

A study by Armstrong and Tsidi (2001) tested this claim on a member of the CMA, namely, Swaziland. The objective of the study was to ascertain the significant variables in the determination of inflation in Swaziland. The results showed no statistically significant impact of the money supply variable on inflation for Swaziland. This suggests that

Swaziland's money supply does not move in accordance with normal expectations regarding inflation. The authors suggest that this is largely because of Swaziland's membership of the CMA, the limited control it has over its money supply, and the corresponding lack of deficit financing of the government by the Central Bank of Swaziland.

A further option for Zimbabwe is to join the CMA, but with a local currency pegged at a fixed exchange rate, similar to that of the existing members. Under such circumstances the local currency issued by Zimbabwe would be legal tender only in Zimbabwe and the rand would be legal tender throughout the CMA. There would also be a requirement to perpetuate foreign reserves of no less than the total aggregate amount of issued local currency. Although the exchange rate arrangements under the CMA member states would be like a currency board, the member states would not be required to make an irreversible commitment to maintain a specified parity. More importantly, there would be no legal restriction preventing the monetary authority of a member state from obtaining domestic assets, and they would not be bound by currency board-like provisions regarding money creation.

Consequently, this approach might not send a sufficiently strong signal to reassure the market, as abandoning the peg in the future would be relatively easy.

Reintroducing the ZD under Central Banking

The final option for Zimbabwe would be to reintroduce the local currency (ZD) under the supervision and management of the RBZ. The re-introduction of the local dollar could only be carried out if there is a change of management, serving staggered but renewable terms, where renewal would be based on the fulfilment of monetary targets. Such a procedure would ensure that the management of the currency was conducted in good faith, and for the betterment of the country.

The independence of the monetary authorities would have to be guaranteed, and the functions of these authorities would be limited to ensuring price stability. Such measures would ensure that the bank would not be involved in printing money to finance fiscal activities. However, whether such measures would enhance the credibility of, and confidence in the RBZ, given its previous inability and poor reputation is open to debate.

History has shown that central banks that have conducted an ostensively substantial shift to a low-inflation monetary policy before experiencing a persistent period of high inflation (or before getting to the

edge of hyperinflation) have found it an arduous and long-winded task to initiate a policy of low inflation and acquire the monetary credibility in a transition to maintain price stability. The economic consequences of such a monetary policy are, not uncommonly, very high real interest rates, with long-term loans in the domestic currency hard to obtain.

Such policies have often led to anaemic economies characterized by modest growth. For example, in Bolivia, it was more than a decade after hyperinflation ended that the annual rate of inflation managed to maintain levels of below 10 percent (IMF). This was mainly the result of a lack of credibility, stemming from the fact that central banks can switch course with ease, bringing back inflation as quickly as they had annihilated it.

In the discussion above, the US dollar and the South African rand have been suggested as potential anchor currencies. An evaluation based on the four abovementioned criteria, as well as other factors, suggests that the rand has more advantages over the US dollar and that adopting it would bring greater benefits to Zimbabwe in terms of potential fiscal transfers, trade integration and labour mobility, but the evidence is non-uniform with respect to whether shocks are synchronized between SA and Zimbabwe. Nevertheless, Dollarization and the Common Monetary Area are both proven systems, with records of success in providing reliable, low-inflation currencies and putting up a strong barrier against deficit spending. Although deficit spending might still be possible, it would be more difficult without a central bank and the central government finance would be under greater public scrutiny when it tries to borrow from the capital markets. On the other hand, the option of reintroducing the ZD under central banking, in the absence of substantial credibility, should not be considered for a very long time.

Conclusion

The collapse of the Zimbabwean economy, once one of the best in Africa, can be attributed to many factors, such as the fast-track land reform programme, the rising parallel market premium on foreign exchange and severe food shortages. The momentum behind these occurrences could not be countered by price controls or by the alteration of interest rates, mainly because of the deep-seated source of inflation, the massive and recurring Quasi-Fiscal-Activities carried out by the RBZ to monetize the government's budget deficit. These had the most inflationary effect of all as the money was used for consumption purposes and not for

investment.

The aim of this paper was to examine the possible reasons for hyperinflation in Zimbabwe and suggest what measures could be used to arrest it. The statistical analysis of the inflation rate and the money supply show that not only are there positive effects of changes in the growth rate of the money supply on inflation (which is economically interesting), but also that growth in the money supply was a key driver of inflation in Zimbabwe. As a result, controlling money growth will be the key to the success of any disinflation efforts in Zimbabwe. The introduction of the MCS has created initial gains in macroeconomic stability, especially by reducing inflation to single-digit levels, and thus improving the availability of basic commodities. The paper also analyzed and reviewed various scenarios of currency reform options for Zimbabwe, drawing on the country's history and its capabilities, in order to propose possible future currency regimes which could consolidate macroeconomic stability and long-term economic recovery once the MCS is abandoned.

Given the advantages and disadvantages of the various policy options, the most desirable would be for the Zimbabwean government to choose a dollarization arrangement, making the South African rand the sole currency used in Zimbabwe. There are additional advantages to be gained by joining the CMA, in terms of enhancing financial and economic integration. Randization would also allow the country to collect some of the seigniorage, whereas no such option exists with either the US dollar or the Euro.

Alternatively, and if the ZD were to be re-established under a central bank, there would be significant challenges in terms of gaining credibility, even if all of the recommended strict institutional preconditions for the establishment of the central bank were met.

It is worth noting that in no country has dollarization by itself been sufficient to foster sustained economic growth. The government of Zimbabwe needs to make a political commitment to carry out the necessary reforms to support dollarization by encouraging economic growth. Dollarization does have a track record, however, of providing reliability in one important area of economic policy: stability. As Karl Schiller, a former German Minister of Economic Affairs, pithily put it, "stability is not everything, but without stability, everything is nothing" (Hanke, 2008)

Notes

[1] The parallel market (also known as the black market) refers to the illegal market in foreign exchange, operating outside government control and legal banking channels. The parallel market premium for foreign exchange is the percentage by which the parallel exchange rate exceeds the official exchange rate.

[2] The premium fed into inflation via expensive imports (cost- push inflation).

[3] The Olivera-Tanzi effect explains that the real value of tax revenues falls in periods of inflation, as a consequence of the usual time lags in the collection of taxes (income earned and income tax paid).

[4] Seigniorage is the revenue that a central bank collects from printing money.

[5] Dollarization is used throughout this paper as a general term for the adoption of a foreign currency.

[6] The CMA is a monetary union that consists of four member countries: SA, Lesotho, Namibia, and Swaziland, whose currencies are pegged to the South African Rand.

[7] "The Southern African Development Community" one of whose aims is to foster socio-economic cooperation and integration among its 15 African members. All CMA participants are also members of the SADC (http://www.sadc.int/).

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