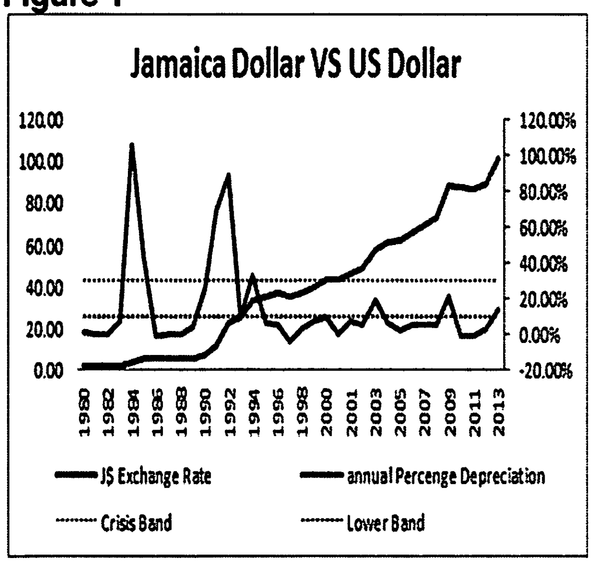
Exchange Rate Discussion Paper

There has been growing concerns from many quarters about the current rate of depreciation of the Jamaica Dollar since January 2013. This concern has become more heightened as many feel that its intended correction of the currency 'overvaluation' is harmful to both the financial sector and the real economy. In fact, many analysts believe that the currency is under attack and that the government may not be able to defend the dollar if the current state persists. It is on these grounds that many including the former prime minister the most Honourable Edward Seaga has called for the dollar to be fixed[1], others have called for the Bank of Jamaica to adopt a Crawling Peg exchange regime. The Private Sector Organization of Jamaica in advocating for the organizations that it serves has listened to these voices and has called for a study of the impact of the current state of depreciation on the Jamaican economy, through its Economic Policy Committee.

In this discussion it is useful to examine the stylized facts of the currency movements by starting with a theoretical definition of a currency crisis.

A currency crisis is defined as a nominal depreciation of the currency of at least 30% following a 10% increase in the rate of depreciation in the previous year. In this context, it is necessary to examine the percentage movement in the currency. See Figure 1.

Figure 1



At the beginning of January 2013 the value of the Jamaica dollar relative to the US Dollar was J$92.98=US$1.00. Over the course of the year the dollar depreciated and ended the year at J$106.38=US$1.00. This means that the dollar depreciated by 14.4% using end of month exchange rate (13.3% using end of

[1] Since then he commissioned a paper by Vanus James to look at the usefulness of a fixed exchange rate, which showed that it would not be plausible

year avg.)[2]. There have been several episodes of similar currency movements since 1980 (see figure 1). In 1984, 1992, 1994, 2003 and 2009 the dollar depreciated by 105%, 88%, 33%, 19% and 21% respectively.

Analysts tend to first monitor periods in which the rate of depreciation passes the 10% mark for the year. In Jamaica's' case the dollar has hit this marker many times (as shown in Figure 1) without going on to hit the second marker at 30%. In fact the average annual depreciation since 1980 is approximately 14.3%. For the three and a half decades since 1980 the dollar depreciated on average by 15.9%, 24%, and 7.9% in the three decades since 1980 respectively and 3.5% in the half decade after that. For 2014, calendar year to date the dollar has depreciated by 7%. Based on the analysis shown later, we do not however expect that this pace of depreciation will continue for 2014.

Two important questions now arise, the first, what is the expected depreciation in the near term. The second is, given the current depreciation, has the Jamaica Dollar reached a competitive level and is this level identical to the required equilibrium level? In theory the competitive exchange rate need not be identical to the equilibrium exchange rate; the literature acknowledges what is called multiple equilibria.

Let us start by defining the equilibrium exchange rate. ***The real equilibrium exchange rate is the one that allows for the economy to be at internal and external balance. Internal equilibrium is a condition in which the economy's actual output is equal to potential output and no inflationary pressures exist. External equilibrium occurs when there is a sustainable level of capital flows.***

Key Determinants of the Real and Effective Exchange Rate

Two of the fundamental determinants of the variability in the real exchange rate and the real effective exchange are the levels of relative inflation and productivity gains across major trading partner. In theory Jamaica will experience greater movements in its exchange rates when compared to the United States, Trinidad and Tobago and Barbados among others given the differences in these fundamental determinants. Inflation in Jamaica averaged 10.5% per annum when compared to 2.36%, 6.6%, 4.3% and 3.85% in

[2] Bank of Jamaica data -end of year average (end of month data yields 14.4%)

the United States, Trinidad and Tobago, Barbados and the Caribbean region.

Figure 2

KEY EXCHANGE RATE DETERMINANTS					
Country	HDI	Education Literacy Rate	DBI Rank	Global competitive ness index	GDP per Capita
Jamaica	0.73	88.0%	91	97	$9,300
Trinidad and Tobago	0.76	99.6%	63	84	$17,437
Barbados	0.83	99.7%	84	44	$14,917
United States of America	0.94	99.0%	4	7	$51,755
United Kingdom	0.88	99.0%	11	8	$38,649
Singapore	0.90	95.9%	1	2	$54,007

Jamaica lags in all measures of productivity when compared to its referenced countries (see figure 2). The productivity differences in the Per Capita Gross Domestic Product across these countries are a fundamental explanator of the relative quality of live that residents in these countries enjoy, and as a consequence the relative value of currencies. It should also determine the relative price of imports that these countries observe through the power of their local currencies.

This significant difference in productivity explains the erosion of Jamaica's exchange rate relative to its major trading partners. This tells us that Jamaica will continue to find it difficult to compete in international trade, and hence its ability to earn foreign currency will continue to be challenging. Broad based changes in macroeconomic policy and changes in long term development are therefore necessary to change this unsustainable economic path.

It is important to note, however, that at the base of this uncompetitiveness is our decreasing productivity levels, and especially labour productivity, which directly impacts the value of the Jamaica dollar versus other currencies, including the US dollar.

It is also important to distinguish between nominal versus real exchange rate and the time horizon impacting these rates. These time horizons include the short term (BEER & CHEER), the medium term (FEER and DEER) and the long term (PEER and NATREX).

The distinction between these rates is very important to the discussion because they help us to understand the movement in the exchange rate overtime. For this discussion the Fundamental Equilibrium Exchange Rate (FEER) is the most critical because it addresses the current state of the depreciation in the medium term. It is expected that in the long term, Jamaica will improve in its level of development and the required Permanent Equilibrium Exchange Rate (PEER) will be achieved.

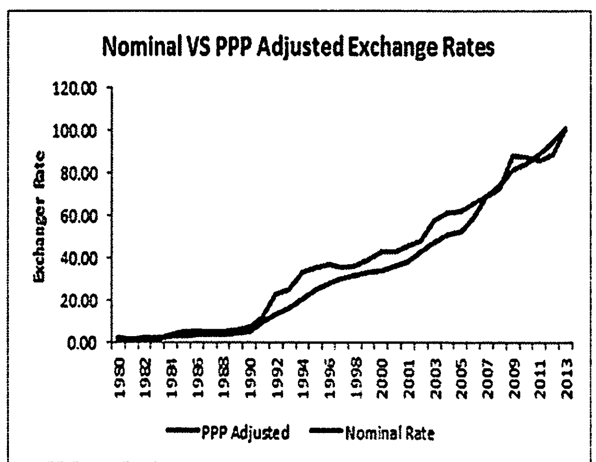
Jamaica's Real Exchange Rate (RER)

An important argument for the current movement of the local currency is that it is over-valued. That is the price that importers of Jamaican goods and services are paying is high relative to what they could purchase with the same dollar from other countries. Overvaluation also means that the price that Jamaican residents pay for goods and services from other countries is too low.

This situation therefore results in a mismatch between the values of revenue Jamaica earns form exports denominated in foreign currencies and what it spends to buy imports. This is the fundamental reason for Jamaica's Balance of Payments (BOP) problems. The issue of value is therefore explained through the BOP position and the relative Purchasing Power Parity across countries.

Basic economic theory thus posits that the current movements in the Jamaica dollar are due to Purchasing Power Parity (PPP) adjustments. So let us examine this scenario, the PPP theory says that the nominal exchange rate between two trading countries will adjust to bring the real exchange rate (RER) back to parity through changes in the inflation rate between the two countries. In this calculation the exchange rate for both Jamaica and the US are compared at a time when they were relatively close, this is the year 1980. The exchange rate is then adjusted by sussing the equation $E_f = [(1 + I_h)/(1 + I_f)] - 1$. There are those who argue that the movement is due to build up over many years and what we are now seeing is the pressure releasing. See Figure 3 below.

Figure 3



Taking the series from 1980 when the value of the currencies were relatively similar and apply the inflation differential produces rates that were nearly identical in 2013 (see figure 3).

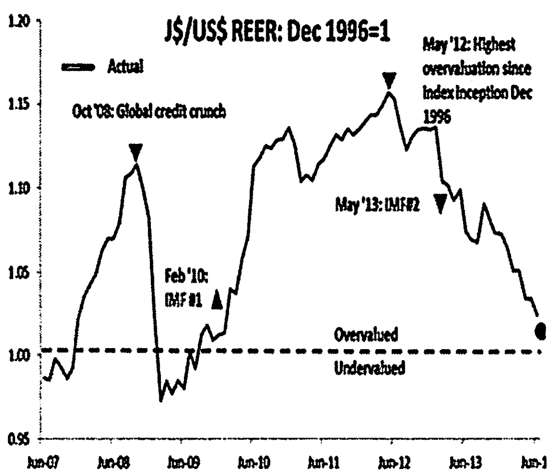
This result suggests that those who argue that recent movements are due to this phenomenon should not continue to see a build-up of pressure. Moreover given the foreign exchange rate market mechanism, any such build up will be corrected in the market, unless there is intervention through monetary policy or debt. This intervention has been the cause of the build up in pressure on the exchange rate that led to the significant depreciation seen in 2013.

Jamaica's REER

The Real Effective Exchange Rate is the weighted average of Jamaica' currency relative to an index or basket of its major trading partner's currency adjusted for the effects of inflation. The weights are determined by comparing the relative trade balances, in terms of one country's currency, with each other country within the index. The data reveals that Jamaica has undergone series of gains and losses and levels of external competitiveness since June 2007. Jamaica has experienced a significant loss in competitiveness evidenced by the increased in the REER which reached its highest peak in May 2012 (see figure 4a). This loss of competitiveness caused a negative impact on the current account balance on the BOP accounts. The value of the REER therefore suggests that as at the end of June 2014 the currency was near its competitive level.

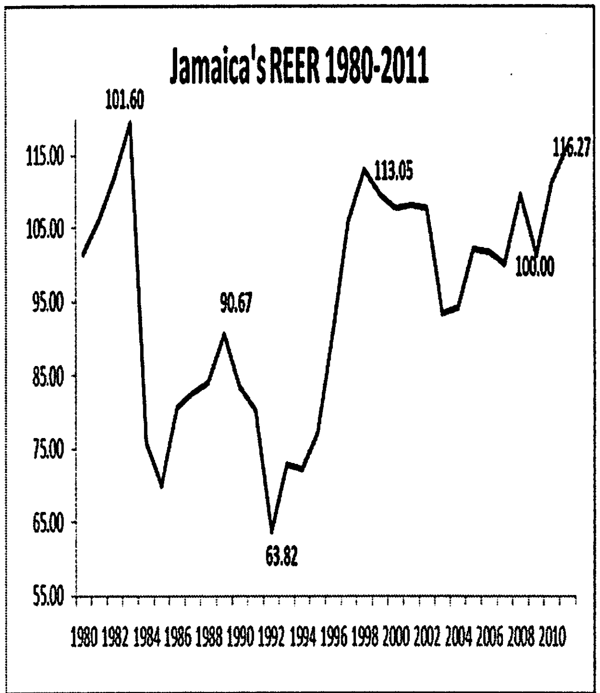
Based on this analysis, we can expect a further depreciation of between 2% to 5% of the Jamaica dollar against the US dollar, all things being equal. Change in policy and resulting confidence, however, are significant factors and could affect this expectation either way. This is why the policy initiatives, and speed of implementation, by the government is so critical.

Figure 4a



Source: SUI PAG, BOJ, STATIN

Figure 4b



The Fundamental Equilibrium Exchange Rate (FEER)

Another method to assess the equilibrium exchange rate, is to look at the Fundamental Equilibrium Exchange Rate (FEER).

The Fundamental Equilibrium Exchange Rate (FEER) is the medium term rate that achieves internal and external equilibrium in the economy. ***Internal equilibrium is a condition in which the economy's actual output is equal to potential output and no inflationary pressures exist. External equilibrium occurs when there is a sustainable level of capital flows.***

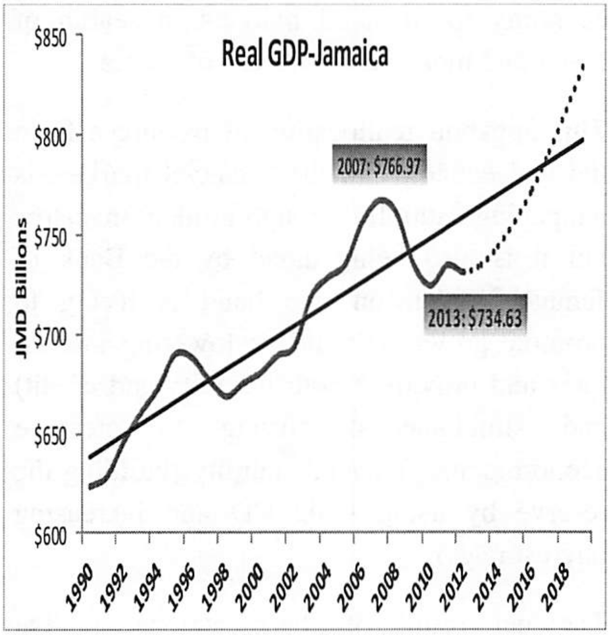
Internal Equilibrium

Quarterly data on Jamaica's real GDP from the International Monetary Fund IMF and the author's calculation suggests that the actual output is currently below potential output. Potential output is a measure of Jamaica sustainable long term production levels. It may be derived from simply examining the long run trend growth path (see straight black line in graph below). Given that the level of real output is below this line it can be inferred that ***internal equilibrium does not currently exist***.

However, with the current fiscal policies and the recent depreciation of the dollar, this should reduce the volume of unproductive imports while simultaneously increasing exports and the expected growth of the economy, as the Jamaica dollar moves closer to parity with the US dollar.

Figure 5 below tells us that the economy will achieve internal balance by between 2016 and 2017, based on current policies and trend. This movement towards potential output ,marked by the straight line, is expected to be achieved through the reduction of imports, the application of import substitution, and an increase in exports through increased productivity.

Figure 5



From this perspective where actual output is below potential, the local currency ***is still overvalued even if just marginally.*** None the less, ***continued depreciation may take place*** over the next two years, albeit at relatively slower pace, as economic players readjust to the new economic climate[3]. The continued adjustment (either way) in the value of the Jamaica Dollar will continue given the dynamic nature of the global economy, inflation rates will change, productivity levels will change and growth rates will adjust. This adjustment process requires these players to retool and to move into areas of production that are economically sustainable given the quality and types of indigenous inputs available locally. This transition phase can be characterised as do or die phase for many.

Surprisingly, this retooling and restructuring of the local economy to take advantage of the newly created competitive platform is uniquely absent from most of the discussion on the realignment of the Jamaica Dollar relative to its trading partners. What must take place in the economy is a structural transformation which defines what is produced, how it is produced and the price that Jamaican goods and services will earn in the international markets.

External Equilibrium

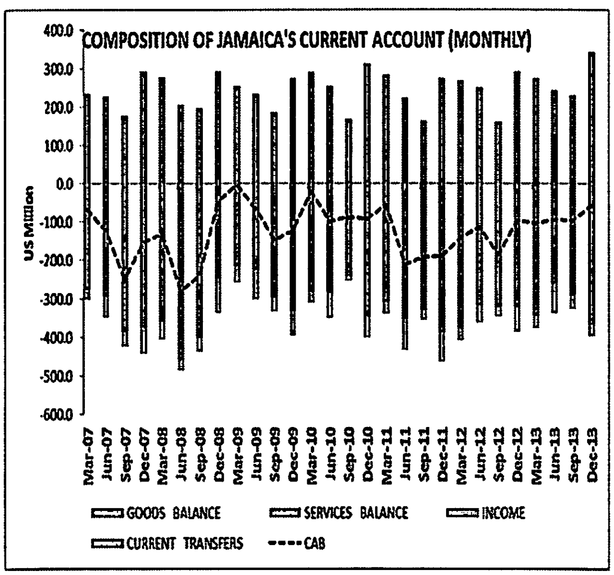
Jamaica's Current Account Balance has been improving marginally but steadyily since June of 2011 (see figure 6) and should continue to have a positive impact on the stabilization of the local currency since outflows of foreign exchange (deficit) is growing at a slower pace. This improvement is due largely to increases in both the net current transfer balance and the services balance. The goods

[3] This is supported by the REER analysis

balance and the net income balance continue to improve marginally but are the real sources of the currency dilemma in Jamaica.

The dilemma exists because on one hand the BOJ and the IMF are convinced that cutting expenditure on costly low value added imports will both reduce the demand for the foreign currency and simultaneously move the exchange rate to a more competitive level where domestic exports can thrive.

Figure 6



On the other hand the adjustment process comes with a reduction in exports which then lowers export revenues and also causes a reduction in economic activities in Jamaica. The reduction in Jamaica's exports is a part of the natural process of economic restructuring in which economic actors adjust to the relatively higher cost of factor inputs due to the changes in the value of the currency.

One valid explanation of the fall off in exports, even with the depreciation of the currency, is that the Jamaica dollar has still not yet found parity / equilibrium with other currencies and so we will not see the benefits of cheaper exports until then. Hence the reason for not seeing the expected growth in exports. In addition to this, there are still some structural issues of bureaucracy, energy, and crime which must be addressed.

This economic restructuring is a huge problem because the local actors in the real economy and those financial markets are nervous and fearful hence there seems to be a reallocation of resources away from the real economy to financial markets in search of better and more stable sources of income.

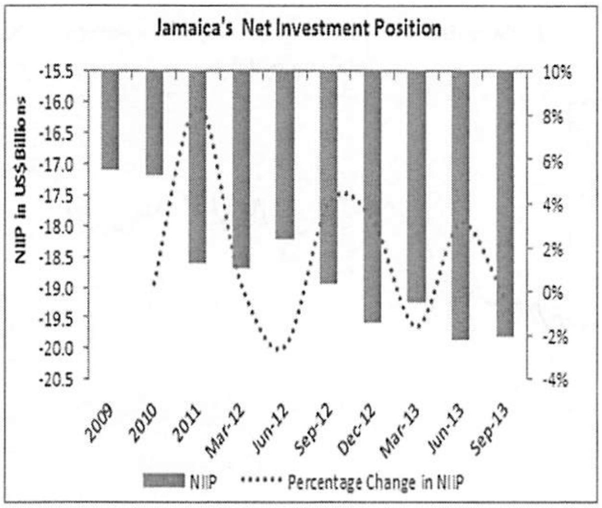
This apparent reallocation of resources from the real economy to the financial markets is happening naturally through prudent investors but it is also being aided by the Bank of Jamaica which on one hand is trying to promote growth (should be lowering interest rates and providing both liquidity and credit) and simultaneously trying to preserve economic and financial stability (building the reserve by using USD CD and increasing interest rates).

The net result of these actions is that Jamaica's Net International Investment Position (NIIP), that is Jamaica's net foreign wealth (the difference between the value of foreign assets and owned by Jamaica's residents and the value of Jamaica's assets owned by foreigners) has deteriorated significantly since 2010 to the middle of 2013. Since then, the NIIP seems to be improving marginally. The negative movement in the NIIP since 2010 is a direct result of the large goods balance and the size of the debt denominated in foreign currency. Additionally, the very depreciation of the local currency increases this debt stock and thus exaggerates the problem.

A deeper look at the data shows that the country's external liabilities denominated in foreign currency has been growing at a much faster pace than the country foreign assets when measured in dollar value. On the liabilities side direct investment in reporting, portfolio investment, financial derivatives and other investments have increased by 14%, 3%, 343% and 45% respectively. Total liabilities at US$4.9 billion, growth rate of 23% since 2009.

On the asset side, direct investment abroad, portfolio investment, financial derivatives, other investment and reserve assets have increased by 98%, 378%, 4000% 53% and -1% respectively (see figure 7). This means that total assets grew by US$1.962 billion (62%) since 2009. The effect is that liabilities denominated in US$ have doubled and hence the deterioration in Jamaica's NIIP. This deterioration in the NIIP means that the country's BOP position is unsustainable and hence the current IMF measures to correct the BOP deficit by reducing Jamaica's demand for foreign currencies by reducing unproductive imports.

Figure 7

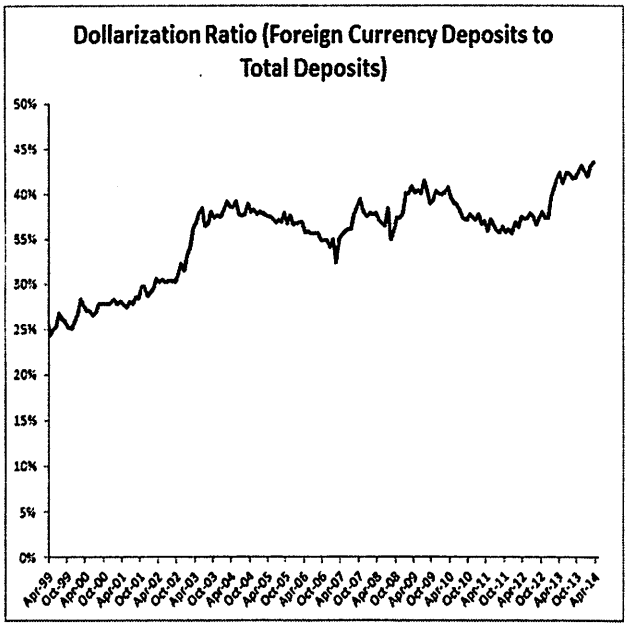


In addition, investors are reading into this position and redistributing financial resources into US$ denominated instruments and this action drives the pace of depreciation much faster than the BOJ and IMF would have intended. This means that the growth in portfolio investment denominated in USD will continue as long as investors continue to believe that the dollar is unstable and that the BOJ is not in a position to defend the dollar if adverse movements gather momentum over the next six months.

Dollarisation

Another significant indicator of the response of investors to the country's financial position in respect to its use of foreign assets is the Dollarization Ratio.

Figure 8



The dollarization ratio is defined as the proportion of foreign currency deposits relative to total deposits in domestic financial institutions; in this case, the domestic financial institutions include only commercial banks. The dollarization ratio measures the extent to which citizens of Jamaica officially or unofficially use foreign currency (primarily the U.S. Dollar) as a legal tender for transacting businesses. Dollarization is an important indicator of currency substitution. Its presence is generally an indication that there is greater stability in the value of the foreign currency relative to the domestic currency.

The dollarization ratio has increased marginally from 43.6% to 43.8% in April 2014 relative to March of 2014 (see figure 8). At the same time last year the dollarization ratio was at 42.5%. Financial dollarization has been on an upward trend since January 1999 when the ratio was 25% to 43.8% in April 2014.

While dollarization is not unique to Jamaica as a developing country, the adverse effect is that it may increase the volatility of the demand for local currency and impinge on the capacity of the Central Bank to conduct monetary policy. In addition, it contributes to the depreciation of the local currency through increased demand for foreign currencies. It also comes with capital gains and interest gains for deposit holders hence represents a medium through which speculators thrives. Finally, dollarization is regarded as an obstacle to the conduct of monetary policy, given that in the presence of dollarization, domestic monetary policy is also impacted by foreign economic variables and therefore the Central Bank's autonomy is becomes limited.

At this point in the discussion it is prudent to examine the BOJ defence mechanism or the tools that it has in its monetary stability arsenal. Firstly, let us examine the country's reserves in the form of the Net International reserves.

At the end of May 2014, the stock of Net International Reserves (NIR) at the Bank of Jamaica was US$1,164.77 million (see figure 11), a decline of US$120.32 million relative to April 2014. The fall in NIR for the month (see figure 10) was due to a fall in foreign assets of US$204.37 million, which was partially offset by a reduction in foreign liabilities of US$84.05 million. At the end of May, the reserves were sufficient to finance 17.21 weeks of goods imports which represents 5.21 weeks over the international benchmark of 12 weeks of goods imports. The annual picture is much different; the value of the NIR in 2014 is much healthier when compared to both May 2012 and May 2013 (see figure 9).

Figure 9

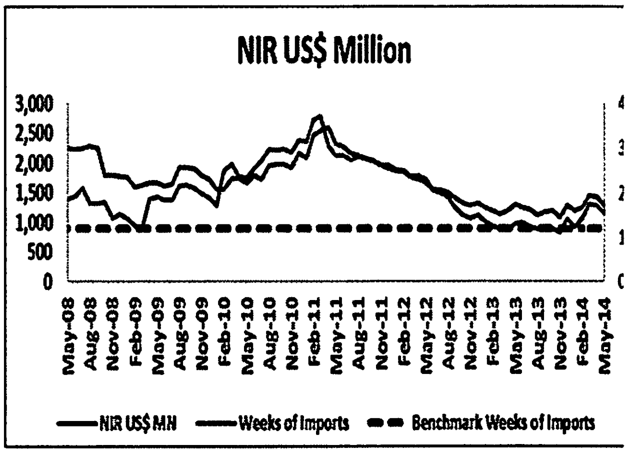


Figure 10

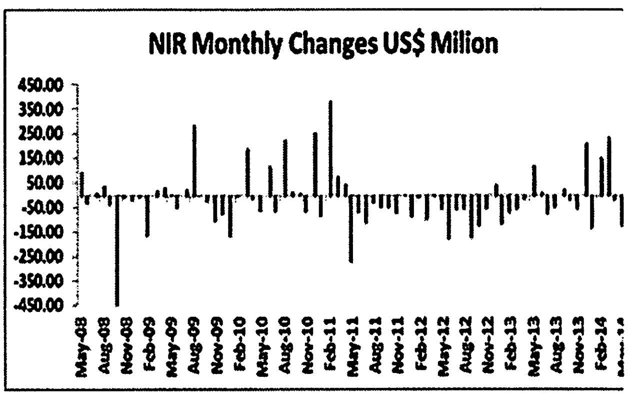
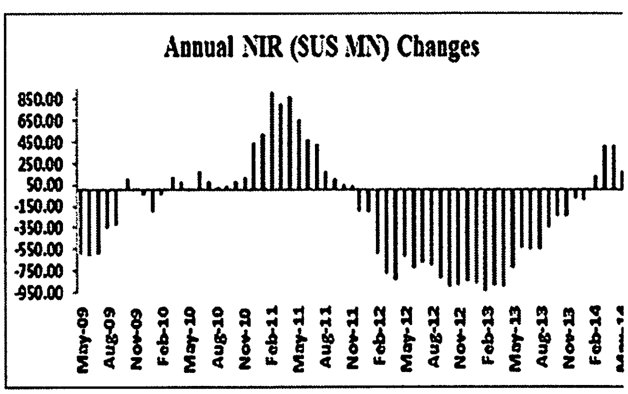


Figure 11



Given the stock of reserves at the BOJ and the rate of conversion that has been observed over the last year it is safe to argue that the central bank may be able to defend the dollar for four to six months if the normal cyclical demand continues for foreign currency and if domestic economic actors remain rational. However irrational and unfounded behaviour by investors cannot be defended by the BOJ, for any measurable period of time, this would end in crisis and all actors perish. So it is safe to argue that we will observe the usual cyclical depreciation of the currency, sometimes more than others but definitely not a currency crisis. To strengthen rational behaviour by investors, government must continue to create confidence in the business environment, which also means ensuring that we create a Doing Business environment where large and small companies can feel comfortable investing their capital.

It is also important to note that the recent successful US$800 Million bond issue will strengthen this position for the BOJ, and should improve confidence in the currency market.

It is safe to argue at this point that investor expectation on inflation, and expected movements in the currency is causing some jitters in the local financial market. This can be corrected by the BOJ which must continue to build confidence in the local economy. What are the tools that the BOJ can continue to use to defend the currency? The best tool at this time is moral suasion and not fundamental monetary policy which will become both costly and unsustainable. This warrants strong fiscal support in addressing the business environment. **Also, public sector reform is a must at this stage.**

The typical action of the BOJ has been to increase the interest rates on the locally denominated funds to get investors away from the reallocation of the assets into USD denominated assets. This has caused a financial crisis in the past and is not a financially sustainable policy as it drives up both inflation and interest rates. On the other hand the BOJ has been building reserves by the use of USD Certificate of Deposits. This too is dangerous because it creates a new taste in the mouth of hungry investors who may continue to demand these assets thus hiking interest rates and thus stifling the real economy which should be at the center of any policy action to stabilize and grow the economy.

Major Positive Developments which will Support the Forex Markets

There are a number of very positive developments which have and will impact the local foreign exchange market positively over the next year. These include positive movements in Foreign Direct Investments flow, improvements in the fiscal deficit, real growth in GDP and the placement of the US$800 million bond.

Foreign Direct Investment flows are at their highest points since 2010, at the end of 2013, FDI inflows stood at US$567 million, since 2003 average annual FDI flows totalled over US700 million. Improvements in FDI flows are positive because they represent inflow of foreign currencies at least in the short to medium term.

The three consecutive quarters of growth especially in the area of tourism and mining and quarrying will also improve the flow of foreign currencies to Jamaica. The improvements in the fiscal deficit; the first surplus in 18 years is an indication of reduction for debt the government. Finally the placement of the US$800 million bond will inject much needed US dollar liquidity in the markets and hence the pressure on the dollar should be moderated in the coming months

Conclusion

In summary, the above analysis has looked at the currency question by using a technical and analytical approach. This was done to ensure that the subjectivity that usually enters the conversation is limited, and hopefully we can arrive at a rational explanation of what has caused the currency challenges and what the expectations are.

In terms of cause, we can conclude that the underlying problems of our currency instability have been the fact that we have been seeing productivity declines for over the past 40 years. We have never sought to address this productivity issue, but instead have tried to artificially create a feeling of prosperity and stability through monetary policy (high interest rates) which has attracted capital inflows through deposits and loans. However, this has never really fixed the fundamental BOP problem, and over time has resulted in currency crises.

The recent adjustment (depreciation) in the exchange rate, which occurred since 2013, saw the movement exceeding the inflation differentials as a result of this build up of the currency being overvalued.

Based on the models above, we expect that the exchange rate is close to parity/equilibrium, and hence expect that the rate of currency depreciation will slow significantly. Our expectation is that the Jamaica dollar is some 2% to 5% overvalued.

This expected value, however, can be shifted either way by the fiscal and monetary policies that are pursued. If the policies, e.g. seek to improve the business environment then we could see much lower movements on the currency. If on the other hand, tax measures as an example erode confidence then we could see larger currency swings.

The message therefore is that while the fiscal and economic programme is bearing fruits, we are still in a very fragile situation and any incorrect policy move from the government could change the scenario either way.

PRIVATE SECTOR ORGANIZATION OF JAMAICA
ECONOMIC POLICY COMMITTEE