Dollarisation: Any Possibility in Nigeria and Its Effects on Economic Management and Exchange Rate Stability

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I. Introduction

I.1 Definition

There are several definitions, similar but somewhat varying, that have been used in the literature. Alesina and Barro (2001) defined dollarisation as the use of another country's currency as legal tender which may not be specifically the dollar. Bogétic (2000: 179) defines dollarisation as "a portfolio shift away from domestic currency to foreign currency, to fulfil the main functions of money—store of value, unit of account, and medium of exchange". According to Slivinski (2008), the term "dollarisation" describes a shift away from a country's domestic currencies toward a foreign currency- typically the U.S. dollar, but not always - as a store of value, unit of account, and medium of exchange. It is a generic term used to characterise the use of any foreign currency that effectively serves as a replacement for national currency. The substitute currency is typically the currency of a major trading partner or an important industrial power with a reputation of a sound monetary policy (Kessy, 2011).
To be sure, dollarisation in a broader sense could be of several forms depending on the legal arrangement and monetary policy focus. Yeyati (2006) makes the distinction between official dollarisation (de jure or formal dollarisation) and unofficial dollarisation (de-facto or unofficial dollarisation). The former is defined as a monetary arrangement whereby a foreign currency is given legal and exclusive status as a country's legal tender to perform all the functions of money without restraint. He defines the latter as an unofficial monetary arrangement facilitating the use of foreign currency alongside domestic currency.

Yeyati further breaks down unofficial dollarisation into two separate phenomena, which may take place separately or simultaneously. The first phenomenon is the use of foreign currency as a medium of exchange known as currency substitution, while the second is the use of foreign currency as a store of value known as asset substitution. In currency substitution, foreign assets are used as money, essentially as means of payment and unit of account, and it typically arises under conditions of high inflation or hyperinflation when the

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high cost of using domestic currency for transactions prompts the public to look for available alternatives. Once the use of foreign currency in transactions becomes accepted, it may not be rapidly abandoned.

Literature suggests that de facto dollarisation precedes de jure or official dollarisation where countries have previously owned a domestic currency. Moreover, there is more focus on de facto dollarisation than official dollarisation in the literature. Bogétic (2000) attributes this situation to the prevalence of more de facto than officially dollarised economies, the demographic size of most dollarised countries and the lack of published data on dollarised economies. Dollarisation in the sense of the unofficial use of foreign currency by economic agents is not a new phenomenon. What is new is the official adoption of foreign currencies in geographically large developing countries.

Until recently, formal dollarisation was seen as an option limited only to tiny enclaves or micro-states like San Moreno or the Marshall Islands. In all, only some dozen sovereign entities – including only one country (Panama) with a population exceeding 3,000,000, thus far, use the currency of a larger neighbour or patron in lieu of money of their own. Today, however, even nations as big as Argentina or Mexico are debating the merits of the approach (Cohen 2000: 2). Transcending the national level debate, pointed out by Cohen over official dollarisation, Ecuador and El Salvador have already gone ahead to introduce the dollar as their countries 'sole and legal tender.

"Dollarisation" no longer refers just to the U.S. dollar. San Marino and Vatican City are officially "dollarised"; Italian lira is the only legal tender (and will be replaced by the euro). Bosnia is officially "semi-dollarised"; German marks, are legal tender along with Bosnian marka. Macau and much of south-eastern China are unofficially "dollarised;" the Hong Kong dollar circulates but is not legal tender.

Table 1a below shows a high level of de-facto dollarisation for the period 1999 – 2003. This is an indication that official or formal dollarisation is imminent in several developing countries, especially in the face of recurrent economic distress and political instability.

TABLE 1a: Unofficial Dollarisation in Developing Countries (in Per cent)[2]

Country Name	Deposit Dollarisation[3]	Loan Dollarisation[4]	Public Debt Dollarisation[5]
Argentina	14	20	96
Bolivia	92	96	95
Brazil	0	0	49
Chile	15	14	45
Colombia	1	5	59
Costa Rica	46	55	53
Guatemala	10	25	88
Honduras	34	26	95
Mexico	10	32	42
Nicaragua	71	84	98
Paraguay	64	57	N/A
Peru	74	79	92
Uruguay	85	61	96
Venezuela	0	1	67
Latin America Country Average	37	40	75
Emerging Country Average [6]	22	19	39

2 Data are for (1999, 2001, 2002, and 2003), gathered from central banks and ministries of finance of respective countries.

3 Foreign currency deposits as a percentage of total deposits.

4 Foreign currency loans as a percentage of total deposits.

5 Public debt in foreign currency as a percentage of total public debt.

6 Emerging country average also comprise African countries including Morocco and Nigeria.

Source: Garlindo and Leiderman (2005:38).

I.2 Historical Experiences

Countries that use foreign currency as legal tender can be divided into two main groups. The first one corresponds to independent nations, while the second group covers territories, colonies or regions within a national entity. Panama is a good example of the first type of country, while Puerto Rico belongs to the second group. The countries and territories that have had a dollarised monetary system are very small indeed. Many are city-states well integrated into their neighbours' economies. Monaco, Lichtenstein, the Vatican and Andorra are good examples. Some of them are not only tiny, but also have an exciting and romantic origin. This is the case of Pitcairn Island, the place where a group of English

mutineers and Tahitian women settled in 1790. Many of the dollarised economies are so small that they do not have data on basic economic indicators such as inflation or growth.

The largest dollarised territory is Puerto Rico, and the smallest is Pitcairn Island. In 1998, the median population in the independent dollarised countries was 63,000 people; the median population in the territories was even smaller at 19,000 people. Another characteristic of these economies is that they are extremely open (Table 1).

Table 1. Dollarized countries and territories: Experiences and data availability

Country	Population	Currency	Data availability	
			Growth	Inflation
(A) Independent countries				
Andorra	73,000	France, Spain	1971–1998	—
Kiribati (1980)	82,000	Australia[†]	1971–1998	1983–1997
Liberia	2,900,000	USA	1971–1981	1971–1981
Lichtenstein	31,000	Switzerland	1971–1998	1971–1997
Marshall Inds. (1987)	61,000	USA	1971–1998	1982–1997
Micronesia	130,000	USA	1971–1998	1987–1998
Monaco	32,000	France	1971–1998	—
Nauru	10,000	Australia	1971–1998	1989–1998a
Palau (1995)	17,000	USA	1971–1998	—
Panama	2,700,000	USA	1971–1998	1971–1997
San Marino	26,000	Italy[†]	1971–1998	1985–1998
Tuvalu (1979)	11,000	Australia[†]	1971–1998	1983–1998
Vatican City	900	Italy	—	—
(B) Non-independent territories				
American Samoa	65,000	USA	—	
Cocos Islands	600	Australia	—	
Cook Island	20,200	New Zealand	1971–1998	1983–1998
Greenland	60,000	Denmark	1987–1997	1971–1998
Guam	150,000	USA	—	
Niue	2,000	New Zealand	—	
Norfolk Islands	1,900	Australia	—	
N. Mariana Inds.	70,000	USA	—	
Pitcairn Island	50	New Zealand, USA	—	
Puerto Rico	3,880,000	USA	1971–1998	1974–1998
Saint Helena	7,000	UK	—	
Tokelau	1,500	New Zealand	—	
Turks & Caicos	17,000	USA	—	
UK Virgin Inds.	19,000	USA	—	
US Virgin Inds.	120,000	USA	—	

Notes: [a]Consumer Price Index for Nauru is not available for the years 1994–1996.
[†]Also own coins in circulation.
Sources: Bogetic (2000), CIA Fact Book, US Congress Joint Economic Committee, October 2001 and The Statesman's Yearbook. Other recently dollarized countries and territories include East Timor (US dollar), Ecuador (US dollar), El Salvador (US dollar) and Kosovo (German mark).

II. Types of Dollarisation

The various types of dollarization are discussed below namely official, semi-official and unofficial. ***Official dollarisation*** means the dollar is legal tender; there is no local currency.

For example, the dollar is the only legal tender in Panama, Ecuador, Micronesia, East Timor and others.

Semi-official dollarisation means the dollar is legal tender and country also issues its own currency as practice in Bahamas, Haiti, Liberia, Laos, Cambodia and El Salvador.

Unofficial dollarisation (**"currency substitution"**) means the dollar is widely used in private transactions (as a unit of account, medium of exchange, and store of value), but is not legal tender; the local currency is legal tender. For example, the dollar is used in most of Latin America and most of the former Soviet Union, but is not legal tender. Unofficial dollarisation ranges from hoarding dollars in countries in which residents cannot legally convert local currency into foreign exchange, to the situation in Argentina where a government "currency board" fixes the exchange rate at 1 peso per US dollar, banks offer dollar-denominated accounts, and the dollar circulates freely – but is not legal tender.

II.1 Pros and Cons of Dollarisation

The pros of official dollarisation are as follows:

- Ensure low inflation (an inflation rate close to U.S. inflation);
- Lower the level and volatility of domestic interest rates (real and nominal interest rates) by eliminating the risk of devaluation and, thus, eliminating the devaluation-risk premium in local currency interest rates;
- Spur the development of domestic long-term capital markets by eliminating the risk of high inflation and devaluation;
- Lower transactions costs in international trade and investment;
- Reduce financial fragility by eliminating currency mismatches and by promoting integration of domestic financial firms into world markets;
- Financial deepening: Provides vehicle for domestic investment as alternative to capital flight, supporting financial deepening; and
- Spur substantially greater international trade.

The cons of official dollarisation mean that a country:

- Becomes unable to adjust its exchange rate when that might be helpful;
- Loses the ability to run an independent monetary policy and reduces effectiveness of monetary transmission mechanism;
- Loses the seignorage from issuing its own money;
- Loses the possibility of using the inflation tax ("revenue of last resort") by printing money in a national emergency;
- Faces balance sheet risks: Exposes public and private sectors to foreign exchange rate changes when asset and liabilities are mis-matched (liquidity);
- Loses the lender of last resort role which complicates the central banks' ability to stabilise the banking system; and

- Loses political sovereignty.

II.2 When to Dollarise Officially

- If a country chooses to dollarise officially, it may be that it wants to drive home series of reforms in its fiscal policy, the banking system and labor markets.
- Or it could do so as a first-step shock treatment, as in Ecuador, to rein in fiscal reforms, banking sector reforms among others.

It is important to note that the key issue is not whether dollarisation comes first or last, but whether the country has a political consensus to put in place (and to maintain) policies that are necessary to make dollarisation sustainable and credible. These policies include reducing budget deficits to a sustainable level, strengthening the banking system, making labour markets more flexible. Dollarising without such a consensus is extremely risky; if the appropriate policies cannot be put in place, dollarisation will fail.

II.3 Why Does Unofficial Dollarisation/Currency Substitution Occur?

- After repeated episodes of high inflation and currency devaluation/depreciation, residents of a country no longer view the local currency as a reliable store of value; they would, therefore, desire to hold dollars and dollar-denominated assets instead.
- Similarly, people become unwilling to denominate medium- or long-term loans in local currency because they have no confidence that they can estimate its future purchasing power; so, financial transactions are denominated in dollars (and long-term lending often disappears in any case).
- When inflation is high and variable, and reliable measures of inflation are not available promptly, it is easier to write contracts of all kinds in dollars than it is to write inflation- indexed contracts in local currency. When inflation is high, it is easier to quote prices in dollars than to quote prices in local currency and change them frequently.

II.4 Benefits and Costs of Unofficial Dollarisation

II.4.1 Benefits

- The major benefit is that it allows people to protect themselves against inflation and currency devaluation.
- Another benefit is that it makes longer-term lending and borrowing possible, enabling firms to finance long-term investment projects with longer-term rather than short-term debt.

II.4.2 Costs

- The major cost is that it leads to currency mismatches: firms with local currency receipts take on dollar-denominated debt because that is the only way to borrow longer-term.
- A country adopting a foreign currency as legal tender sacrifices its seignorage, the profits accruing to the monetary authority from its right to issue currency. The immediate cost of this issuance can be significant, and it continues on an annual basis thereafter.
- Dollarisation involves two kinds of seignorage loss. The first is the immediate "stock" cost: as the dollar is introduced and the domestic currency withdrawn from circulation, the monetary authorities must buy back the stock of domestic currency held by the public and banks, effectively returning to them the seignorage that had accrued over time. Second, the monetary authorities would give up future seignorage earnings stemming from the flow of new currency printed every year to satisfy the increase in money demand.
- In the event of a large devaluation of local currency, such firms may find themselves unable to service their debt; that can make their banks insolvent. This problem is particularly acute in countries that have maintained a fixed exchange rate for a long time because the fixed rate leads borrowers (and lenders) to believe that they need not hedge currency mismatches.

III. Measurement of Un-Official Dollarisation

Conceptually, the degree of unofficial dollarisation is measured by the stock of foreign currency held by domestic residents, which includes foreign currency deposits (FCD) in the domestic banking system, foreign currency in circulation (FCC) within the domestic economy and the offshore deposits (OSD) held by the domestic residents at foreign banks. Data on foreign currency deposits (FCD) is, in most cases, readily available and so much of the dollarisation literature has focused on various ratios that use combination of foreign currency deposits, local currency deposits and money supply, broadly defined.

Measures commonly used include:

- Foreign currency deposits as a ratio of local currency deposits (FCD/LCD);
- The ratio of foreign currency deposits to total deposits (FCD/(FCD+LCD));
- The ratio of foreign currency deposits to broad money supply (FCD/M_2); and
- The ratio of foreign currency deposits to extended broad money (FCD/M_3) .

It is extremely difficult to measure the amount of foreign currency held by domestic residents in the form of cash (FCC) since no domestic institution is responsible for its issue. At best, foreign currency in circulation can only be estimated.

A number of approaches have been proposed in the literature. For example, Kamin and Ericsson (2003) estimated foreign currency in circulation in Argentina by aggregating the net inflows of U.S. dollars based on the data obtained from the Currency and Monetary

Instruments Reports (CMIR) of the U.S Treasury Department, which documents the flow of U.S. currency between the U.S. and foreign countries. Feige et. al., (2002) used these data to estimate the foreign currency circulating in Latin America and transition economies.

Erasmus et. al., (2009) propose a method of estimating foreign currency in circulation based on the assumption that local currency money multiplier is identical to foreign currency money multiplier. The estimation procedure proceeds as follows: Money supply (M) is given by currency in circulation (CC) plus total deposits (TD). Letting f denote foreign and l denotes local, then the foreign and local components of money supply can be represented as:

$$Ml = CCl + TDl \quad (1)$$

$$Mf = CCf + TDf \quad (2)$$

Likewise reserve money (B) defined as currency in circulation plus total reserves (R) can be presented as

$$Bl = CCl + Rl \; Bf + CCf + Rf \quad (3)$$

The money multiplier (m) is given by the ratio of money supply to reserve money i.e.

$$m = M/B \quad (4)$$

$$ml = (CCl + TDl)/(CCl + Rl) \quad (5)$$

$$mf = (CCf + TDf)/(CCf + Rf) \quad (6)$$

There are two unobservable elements in these final expressions: foreign currency in circulation and the money multiplier for foreign currency. Erasmus et. al., make the assumption that the multipliers for the two currencies are identical.

Thus $ml = mf$, which allows the two equations to be solved for foreign currency in circulation (CCf)

$$CCf = ((ml *Rf)-TDf)/(1-mf) \quad (7)$$

Erasmus et. al., (2009) used this method to estimate foreign currency in circulation for Liberia and concluded that the amount of U.S. dollar circulating in Liberian economy in 2007 was about nine times higher than domestic currency in circulation. This method depends entirely on the plausibility of the assumption that the domestic and foreign currency multipliers are equal.

Another method that has been used in the literature to estimate foreign currency in circulation is the denomination displacement method proposed by Feige et. al., (2002). The thrust of this method is the hypothesis that foreign currency is typically used in large ticket transactions such as purchase of houses, automobiles and high value consumer durables. They argue that countries that are heavily dollarised will have domestic currency denomination structure that is skewed away from higher denomination domestic bills. This would occur as higher foreign currency denominations substitute for higher denominations of domestic currency.

Foreign currency in circulation could, therefore, be estimated indirectly as a cumulative value of the reduction in higher denominations of domestic currency in circulation. Feige et. al., (2002) applied this method to the Croatian data but did not find evidence of denomination displacement.

IV. Effects of Dollarisation

With regard to the effects of dollarisation, some researchers have shown its positive impact on the economies of Latin American countries. Dollarisation has helped these countries to reduce inflation, increase output growth and enhance international integration. In respect to the Euro area, studies by Meller and Nautz (2009) also showed a decline in inflation volatility persistence as a result of common currency in the area. Similarly, Bleaney and Fielding (2002) and Elbadawi and Majd (1996) have noted lower average inflation rate in Franc Zone area.

Although dollarisation can generate some benefits to the dollarised economy, several studies have found its negative impact on micro and macroeconomic variables. Dollarisation increases exchange rate and output volatility, lowers growth of economies with floating exchange rate systems, makes countries vulnerable to external shocks, increases financial risk and makes monetary policy less effective.

As a point of departure, this paper focuses on the main variables of interest in the dollarisation debate including inflation, fiscal discipline, currency risk, financial and trade market integration, labour market reform and economic growth.

IV.1 Inflation

For so long, inflation has been a common enemy in monetary policy circles in almost all countries. It is often defined as the sustained increases in the general price level of goods and services in an economy (Kibritçioğlu, 2002:45). Maintaining inflation targets has often been achieved through monetary policy adjustments. Such policy adjustments are mostly instituted through upward or downward adjustments in money supply or through exchange rate adjustment by means of devaluation or revaluation. In developing countries, inflationary situations are even of greater magnitude, sometimes sparking civil and political unrests. These inflationary situations are the reasons prompting the shift in monetary policy thinking in developing countries from maintaining independent domestic currency to the adoption of stable foreign currency as legal tender (dollarisation).

The central idea behind the introduction of a foreign currency and the elimination of domestic currency is that it wipes out inflation or reduces it to a level equivalent to that of the currency issuing country such as the United States. For example, political tension fuelled by hyperinflation and dismal economic performance prompted the government of Ecuador to drop the use of the Escudo and officially adopt the U.S. dollar as legal tender in 2000.

Proponents such as Vos (2000) believe it was a right decision by the Ecuadorian authority because both fixed and flexible exchange rate regimes had failed to re-verse inflation in that country. Hausmann (1999) justifies the proposition for dollarising Latin America, and by extension developing countries, with the contention that independent monetary policy has failed to deliver currency stability in the region citing cases of inflationary upswings and wage indexations across the continent. In the wake of the failure of both fixed and flexible exchange rate regimes, Hussmann proposes the adoption of a supra-national currency. Alesina and Barro (2000) also support this proposition for small closed economies with high historical inflation, especially if they are geographically proximate to a large economy.

Dollarisation prevents countries from printing money. Moreno-Villalaz (1999) for example argues that the absence of excess money supply and the inability to monetise fiscal deficits in Panama explains its success in maintaining low inflation. However, while the adoption of stable foreign currency may seem to be a solution to inflationary problems in developing countries, there are equally corresponding problems created to the monetary system. It takes away a country's independence in monetary policy. In a sense, a dollarised country delegates its sovereign control over monetary policy to a foreign country from which it has no direct benefits. It can no longer make money supply adjustments even when necessary.

Domestic savings and lending decisions cannot be influenced by local monetary authority as there are no central banks with active role of performing monetary policy governance, i.e., government loses control over monetary policy. At the same time, the central monetary authority is stripped of the ability to shelter the banking system during periods of liquidity constraints. Moreover, dollarised economies tend to lose revenue from printing money. These are the basic counter arguments which opponents of dollarisation, for example Chang (2000) and Chang and Velasco (2002), consider as posing potentially high costs when a country loses its domestic influence over monetary policy. The crux is that, it is not the mere use of foreign currency which cuts down inflation in developing countries. Instead, it is when developing countries are prevented from printing money that inflation is lowered. Inflation in this case is not absolutely eliminated. It still exists under dollarisation.

IV.2 Fiscal Discipline

The growing assumption is that developing countries are corrupt and imprudent in fiscal management. They run large fiscal deficits funded by seignorage. Monetising budget deficits has, therefore, been largely blamed for inflationary episodes in many developing countries for which dollarisation have been justified. Vos (2000) and Eichengreen (2002), for example claim that unsustainable budget deficits was one factor, which fuelled inflation in Ecuador prompting political unrest and a compelling decision to dollarise.

Hence, it is believed that dollarisation enforces restriction on fiscal profligacy. According to pundit Edwards (2001:249), countries that give up their currencies, will be unable to engage in macroeconomic mismanagement. However, the mechanism by which dollarisation enforces fiscal discipline remains inexplicit in dollarisation literature. The underlying assumption is that when developing countries are prevented from printing money to finance deficits, they are compelled to run balanced budgets. But balance budgeting is only one measure of fiscal discipline, which in itself does not guarantee that fiscal misappropriation and misallocation can be prevented. On the other hand, even if balanced budgeting explains fiscal discipline, there is no guarantee in theory that preventing countries from printing money prevents them from borrowing in foreign currency to finance deficits.

The crux is that preventing a dollarised country from printing money does not assure fiscal discipline. It only eliminates domestic inflation, which is the hub of the rationale for dollarisation. In this case, the dollarised country accepts external inflation imposed by the currency issuing country, America for example, in the case of the Ecuadorian and Panamanian economies. This highlights a weakness in the dollarisation-credibility link as economic governance transcends monetary policy alone. Eichengreen (2002) for example, argues that credibility offered to monetary policy by dollarisation may not necessarily enhance credibility in other policies.

IV.3 Currency Risk

Currency instability is one reason for which dollarisation has been encouraged in developing countries. Under independent monetary policy, alternative fixed and flexible exchange rate regimes are believed to have failed in preventing currency fluctuations.
Some critics have even ignored inflationary reasons as not compelling for dollarisation. They tend to attach more relevance to the risk of domestic currency devaluation under fixed or flexible exchange rate regimes and cost of trading domestic currency for international transactions. Bencivenga et. al., (2001) for example, ignores the relevance of price stability rationale advocated by dollarisation proponents since there are other mechanisms other than dollarisation by which inflation can be curtailed. They attach relevance to the uncertainties posed by alternative exchange rate regimes in currency conversion for international transactions; and the exposure of domestic currency to speculative attacks as most compelling for dollarisation in developing countries.

The assumption is that dollarisation eliminates this risk. Antinolfi and Keister (2001) equally contend that the urgency for dollarisation in developing countries has been primarily stirred by currency crisis. They make particular reference to the 1994 Mexican crisis, which was caused by a sudden devaluation of the Mexican Peso.
Whatever it is, the assumption of currency risk elimination under dollarisation is already a forgone conclusion. For example, in the case of adopting the euro, there is no nominal exchange rate factor between a member country of the European Monetary Union and the dollarised country.

IV.4 Effect on Trade and Financial Links

A powerful but still longer-term argument for full, legal dollarisation is that it makes economic integration easier with the rest of the world, and insulation of the domestic financial system correspondingly more difficult. Dollarisation may establish a firm basis for a sound financial sector, and thus promote strong and steady economic growth. The argument here is that dollarisation is perceived as an irreversible institutional change toward low inflation, fiscal responsibility, and transparency. Furthermore, dollarisation may contribute to greater economic integration than otherwise would be possible with the United States, or any other country whose currency is adopted.

A number of studies have found evidence that Canadian provinces tend to be more integrated in trade volume and price level differences among themselves than with the states in the USA that are closer geographically, trading in the order of twenty times more among themselves than with nearby USA. The use of a common currency may, thus, be a vital factor in market integration, given the fairly low transaction costs and restrictions to trade across the US-Canada border.

Dollarisation could also bring about a closer integration in financial markets. One of the most profound effects of Panama's dollarisation is the close integration of its banking system with that of the United States and indeed with the rest of the world, particularly since a major liberalisation in 1969–70. One major challenge posed to developing countries is the under development and isolation of their product and financial markets from international markets. The absence of a well-developed financial market, for instance, limits intermediation for investment capital in developing countries as domestic financial intermediaries are limited in scope and capacity. Product markets in developing countries are under-developed and largely restricted to limited markets. Hence, dollarisation is considered by proponents as a channel through which integration between developing countries product and financial markets and developed countries product and financial markets can be achieved in a short space of time with limited constraints.

The priori justification is that transaction costs are radically reduced, interest rates are lowered and investment credit is accessible in a dollarised economy and then market integration takes place (Schuler and Stein, 2000). Antinolfi and Keister (2001) and Alesina and Barro (2001) also acknowledge this potential benefit of dollarisation. They claim such integration is encouraged by other factors outlined as potential benefits of dollarisation including lower transaction costs and the elimination of currency risk. The rationale is that this integration helps to cushion a dollarised economy during periods of external shocks.

In a somewhat different context of financial market integration, Stockman (2001) claims that the most important effect of dollarisation is the use of the Federal Reserve by the dollarised country's central bank. This argument is hinged around the moral hazard created when political systems resort to printing money to bailout politically influential financial institutions. The trade integration assumption is that dollarised countries are likely to increase their trade with the currency issuing country, the United States for instance. Rose and van Wincoop (2001 cited by Klein 2005) and Frankel and Rose (2002) for example, suggest that dollarisation increases international trade.

IV.5 Labour Market Reform

One vague assumption sparsely discussed in dollarisation literature is that adopting a stable foreign currency and eliminating domestic currency enhances labour market reform. But the mechanism by which dollarisation enhances this reform remains unclear and unconvincing. Hussmann et. al., (1999) for example, argues that independent monetary policy in Latin America has prompted more wage indexation with surging prices. Dollarisation in this sense is meant to prevent wage indexation as prices are expected to remain stable. Soto (2009) in this regard explains that in Ecuador, it was anticipated that dollarisation would have impacted labour markets positively by increasing employment and real wages thereby improving the welfare of its residents.

However, the critical point which proponents have failed to consider is that an increment in real wage for domestic wage earners implies that the cost of hiring labour increases for employers. If labour market reform is to be impacted by dollarisation, then in this case, workers should accept lower wages to induce employers to hire more labour.

To suggest that labour market reforms can be driven by dollarisation is a fundamental flaw. The reason is that there is no clear direction in literature on how this process is enhanced by dollarisation. Jácome and Lönnberg (2010) for example propose flexibility of labour markets in dollarised economies to enhance the anticipated reform, but equally warn that hike in administrative wages could hinder job creation. Implicit in this proposition are both wage flexibility and wage ceiling measures, which are two extremes.

Hence, contrary to dollarisation proponents' claim, the answer to labour market reform is more of institutional than a market-driven process. Nickell and Nunziata (2002) and Belot and van Ours (2004) arrive at similar conclusions that institutional changes have mattered

more in unemployment histories even in OECD countries.

IV.6 Economic Growth

It has also been canvassed that dollarisation promotes economic growth. The flow of expectations are that dollarisation reduces inflation and transaction cost for international trade. Inflation cutting reduces currency risk, while a lower currency risk environment attracts foreign financial institutions and intermediation. Hence, foreign investment leads to growth in output.

Jácome and Lönnberg (2010) for example, make the assertion that the prime reason for dollarisation is the importation of a monetary policy framework which facilitates price stability and economic growth. It is presented as the ultimate way for achieving credibility, growth and prosperity (Edwards, 2001:249). All of the proposed benefits of dollarisation are gravitated towards growth.

Alesina and Barro (2001) make particular reference to the unprecedented growth periods of the 1960's and 1970's when expansionary monetary policies and inflation delivered higher economic growth and lower unemployment. As far as literature provides, there are no theories on which official dollarisation is based. It is a conglomeration of assumptions rationalised only in the context of developing countries, which have no routes in standard macroeconomic theories.

The general consensus in literature is that hyperinflation is the main reason why dollarisation is encouraged in developing countries. The core of the argument is that developing countries are unable to manage independent monetary policy and should, therefore, abandon it. The main proposition for relinquishing independent monetary policy is that it prevents developing countries from currency printing and monetising fiscal deficits.

IV.7 Effectiveness of Monetary Policy

It is contended that dollarisation makes the economy more vulnerable to inflation, decreases the effectiveness of monetary policy, and increases the volatility of the exchange rate. This occurs because dollarisation increases the elasticity of response of the public to changes in the real rate of interest on holdings of domestic monetary assets.

For example, suppose that the public holds only domestic currency and domestic currency deposits. If, in the face of a given fiscal deficit, the monetary authorities want to tighten the domestic money supply by operating in the open market to sell government securities in exchange for local currency, this results in a decline in the price of those securities and a rise in interest rates. If the only two assets that the public holds are government bonds and local currency, interest rates will rise to the point that induces people to hold the additional bonds in the place of the money used to purchase them.

To the extent that the public holds foreign currency, as well as, domestic currency and deposits, some of this foreign exchange will be sold for local currency in order to buy domestic bonds. This will result in both an appreciation of the exchange rate and a lesser decrease in domestic monetary assets held by the public. If the monetary authorities allow the appreciation of the currency to take place, this will help to control inflation through the direct effect that it will have on the prices of tradable goods and services. It may also have a deflationary effect on the overall level of output and income. This is the classical way in which monetary policy operates under a flexible exchange rate regime. It may also help to explain why the real exchange rate in Nigeria has tended to appreciate over the past few years in the face of persistent fiscal deficits and high rates of interest.

However, although inflation may be lessened through this mechanism, it has the unfortunate side effect of crowding out, not only domestic investors but also producers of tradeable goods, especially exports. On the other hand, if the monetary authorities intervene to stabilise the currency, this will result in the sale of the domestic currency, which will defeat the purpose of selling government bonds to mop up excess liquidity. Monetary policy will in this case be ineffective.

Dollarisation may also affect the stability of the money multiplier that is the ratio of the money supply broadly defined to the monetary base (reserves of the deposit money banks with the monetary authorities plus currency held by the public). For example, if the monetary authorities try to tighten the domestic money supply, the public may react by increasing their holdings of domestic currency through the selling of foreign exchange. This will have the effect of increasing the currency/deposit ratio and decreasing the money multiplier, which will reduce the effectiveness of the central bank's action in tightening the monetary base.

IV.8 Lender of Last Resort Function and Financial System Stability

While full dollarisation eliminates vulnerability of the banking system to the risk of devaluation, it does not eradicate all sources of banking crisis. And when they occur, full dollarisation may well impair the country's lender-of-last-resort function and hence, the central bank's response to financial system emergencies. The central bank's role in operating a discount window to provide short-term liquidity must here, be distinguished from its role as the ultimate guarantor of the stability of the financial and payments systems, in the event of a systemic bank run. Dollarisation should not greatly impede the ability of the authorities to provide short-term liquidity to the system or assistance to individual banks in distress. Such facilities are available if the central bank (or its replacement) saves the necessary funds in advance or perhaps secures lines of credit with international banks.

In contrast, the government loses some ability to respond to a sudden run on bank deposits throughout the entire system. In the case of a generalised loss of confidence, the authorities would be unable to guarantee the whole payments system or to fully back

bank deposits. Ultimately, the ability to print money as needed is what allows a central bank to guarantee beyond any doubt that all claims (in domestic currency) will be fully met under any circumstance. Once the ability to print money ceases to exist, limits to the lender-of-last-resort function appear. A fully dollarised country that had already spent its foreign currency reserves to redeem its stock of domestic currency might well lack the resources to respond.

V. Dollarisation in Nigeria: Any Possibility?

Prominent economists have begun to argue that essentially all developing countries should dollarise, and some industrial countries have even been urged to consider it. Partly prompted by the example of European countries giving up their currencies for the euro, some have suggested that Canada should adopt the U.S. dollar as the North American Free Trade Agreement (NAFTA) evolves.

Weighing the pros and cons of full dollarisation is complicated by the virtual absence of historical experiences. Panama is the only sizable country with a history of using a foreign currency—the U. S. dollar—as legal tender, and it is fairly small, and has very close historical, political, and economic links to the United States. Even if there were more country experiences to assess, they would have to be over longer periods than is usual for evaluating monetary and exchange rate options. That is because dollarisation is nearly permanent, and some of its benefits can be gained only in the long-run.

In Nigeria, the Central Bank Governor noted that "we are going to be looking at areas where people are doing what I call the unholy attitude of attacking the currency and making demands that are not needed. You have heard of dollarisation of the economy.

We will take actions to prevent that. The currency for doing businesses in Nigeria remains the Naira. And we will be looking at areas where people are making demands for foreign currency. People, who are landlords that are asking for rents in dollars; schools that are asking for fees in dollars, or transacting business in dollars in Nigeria, are illegal and I will like to advise those involved in these practices to desist from them because the CBN will very soon come after them".(CBN MPC Report, March 2015).

Again, on 7th April, 2015 the CBN restated its resolve to prosecute anyone found transacting business in the country with any foreign currency as a medium of payment. It goes further to state it had observed that some institutions price their goods and services in foreign currencies and demand payments in foreign currencies rather than the domestic currency (the naira), which is the legal tender in Nigeria. To this end, it drew the attention of members of the public to the provisions of the CBN Act of 2007, which states inter-alia that "the currency notes issued by the Bank shall be legal tender in Nigeria...for the payment of any amount".

Furthermore, the Act stipulates that any person(s) who contravenes this provision is guilty of an offence and shall be liable on conviction to a prescribed fine or six months imprisonment. It added further that "this prohibition, however, is without prejudice to foreigners, visitors and tourists who are encouraged to continue to use their cards for payments or exchange their foreign currency for local currency at any of the authorised dealers' outpost. It concluded by saying that "the general public is hereby advised to report any contravention of the provision of this Act to the Economic and Financial Crimes Commission (EFCC) and the CBN for appropriate action".

These comments do not in any way suggest that dollarisation of any form is a crime. Rather, the CBN is simply saying that it is illegal to transact businesses in foreign currencies and that it would impose sanctions on institutions in Nigeria that price their services in dollars without the required permits.

Historically, the preference for the U.S. dollar and other foreign currencies by Nigerian elites and aristocrats had never enjoyed the support of economic managers. The unrestricted and over-bearing demand for the U.S. dollar by Nigerians specifically the political and business classes exert much pressure on the strength of the Naira and its purchasing power. Factors believed to be propelling the dollarisation of the economy are: importation of refined petroleum products whose transactions are mainly done in U.S. dollars; bribery and corruption ; bulkiness of Naira notes when transacting business in huge amounts of money; increasing demand for dollars for the payment of school fees by "high-brow" educational institutions; the high demand for dollars when paying for hotel bills especially in top classed hotels; the demand for the payment of flight tickets in dollars by some foreign airlines; preference for dollars by estate developers when selling or renting real estate properties especially in cities like Abuja and Lagos.

Nigeria as a country has not officially adopted the dollar as a legal tender, but, unofficially, it is used as a means of exchange in the payment for goods and services. The incidence of the use of dollar in Nigeria arose from the adoption of the Structural Adjustment Programme (SAP) when the CBN officially encouraged the opening of domiciliary account, allowed hotels to charge and accept dollars from foreigners. That was when Nigeria was in dire need of foreign exchange to foot accumulated foreign trade bills. This was followed by the high inflation rates which decreased the demand for naira and raised the demand for alternative assets, including foreign currency and assets denominated in foreign currency.

Yinusa and Akinlo (2012) in their well-researched study submitted that "it could be deduced that the level of dollarisation in Nigeria is generally low but increasing". For Nigeria to adopt dollarization as a policy mix, there are basically three feasible forms namely: Unilateral, full monetary union with the US and through a bilateral agreement or treaty with the US. Unilateral dollarisation would represent a policy of adopting the US

dollar without any formal recognition or engagements of significance. We do not believe that monetary union with the U.S. is feasible – at least not today. It is often argued that the requirements for dollarisation are so demanding that those that would qualify would not stand to benefit much.

The other form consists of adopting the dollar in the context of a limited agreement between the dollarising country and the U.S. Other proponents tend to view dollarisation as a cure-all that will take care of fiscal, financial and real sector problems.

Basically, there are three different criteria to prepare a country for dollarisation.

- What would make dollarisation feasible?
- What would make dollarisation the best among the available choices?
- What would make it successful?

VI.1 Minimum Conditions for Feasibility

The truth is that there are very few minimum pre-requisites for dollarisation. First, the government needs to be legally and constitutionally empowered to make the decision. In some countries the President can impose such a decision by decree.

In others, the national currency is set in the Constitution. Getting the necessary legal authorisation involves political support. In addition, the country needs to be able to buy back the currency in circulation and transform it into dollars. To do that, it needs to secure sufficient international reserves which is currently low in Nigeria. Moreover, the country has fiscal and financial weaknesses or important rigidities of some other sort which are bound to generate problems no matter what exchange rate arrangement is chosen.

Preconditions may also be understood at a second level. Namely, one can ask the question what conditions are necessary to ensure that dollarisation is a better strategy than any alternative arrangement. The debate has often been framed as a choice between fixed, floating or something in between, such as a crawling rate or band.

The choice between a currency board and full dollarization is important in this subject matter. There are three technical differences which stand out:

- First, under a currency board, seigniorage revenue is preserved whereas it would be lost under full unilateral dollarisation.
- Second, full dollarisation would result in lower interest rates and in the absence of exchange rate mismatches.
- Finally, a currency board provides the option to adopt an alternative exchange rate regime at some future date.

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Whether dollarisation is preferred to a pure currency board depends on whether the advantages of having seigniorage revenue plus the value of the exit option to another exchange rate system outweighs the cost of having a higher country risk premium.

In this context, the experience of Argentina indicates that, even after 8 years of the convertibility, there is a large and very volatile exchange rate risk, as observed in market prices. (Rubinstein, 1999 and Borenzstein, 1999).

VI.2 Assuring Success

A different set of conditions is needed to assure success. Here the most important definition of success is that the process maintains ample public support, years after its adoption. This is likely to happen if inflation declines, growth and employment pick up in a sustained manner, interest rates decline, credit becomes more widely available on longer term and the export activities maintain their dynamism. To assure success a strategy is required to put in place supporting policies, the full exploitation of the virtuous reform circle, the prudent management of the likely initial boom and adequate precautions against external negative shocks.

VI.3 Dollarisation: What is Being Given Up?

In order to understand the policy issues that are involved in the decision to dollarise, it is useful to consider first what is being given up. Here, I would like to mention four broad categories:

- The ability to manage monetary and exchange rate policy;
- The ability to print fiat money;
- The ability to guarantee the liquidity of bank deposits; and
- The ability to default on the real value of nominal commitments

All these abilities represent options that a government has and can use at certain points in time, especially in difficult circumstances. However, markets know and understand that

these options exist and hence tend to factor them in. For example, the option to devalue is perceived by the market as a risk, which is then reflected in higher interest rates and shorter maturities.

Workers understand that the government has an option to inflate and consequently demand higher nominal wage increases or indexation. So the structure of contracts develops in such a way that it takes into account the presence of the options which the government has. There are various reasons why policy makers in Nigeria may have cause to worry about the increased dollarisation of the economy.

First is the stability of financial sector. If a significant part of the financial system is dollarised, there are two major risks to financial sector stability: liquidity risk and solvency risk. The liquidity risk associated with foreign currency deposits is qualitatively different from that of domestic currency deposits. For domestic currency deposits, the central bank can step in as lender of last resort, since it can create domestic currency in case of emergency.
For foreign currency deposits, international reserves are the only buffer that exists to stem a liquidity crisis, thereby limiting the central bank's scope for taking preventative measures.

The other risk that policy makers should be concerned about is the solvency risk arising from potential currency mismatch. In the event of a large depreciation of local currency, dollar debtors whose receipts are in local currency may be unable to service their bank loans which would potentially lead to banking crisis.

In addition, dollarisation reduces the ability of central banks to raise revenue from money creation. In economies where the demand for money is growing, the revenue thereby foregone may be substantial. Also the use of foreign currency as means of exchange in the non-tradable sector may potentially amplify the magnitude of exchange rate pass-through to domestic prices – making it harder for the monetary authority to control inflation through monetary targeting.

Widespread transaction dollarisation will likely increase demand for dollars in the economy to finance domestic transactions, which would otherwise be financed by domestic currency, which will in turn put pressure on exchange rate, weakening the domestic currency (which may further increase the demand for dollars).

VII. Concluding Remarks

Dollarisation is not something that should be debated in the abstract, as though the issues are the same everywhere. All in all, dollarisation is a complex enough problem to think that simple rules are going to be the solution for every country. The rationale for dollarisation in developing countries is not only weak, but lack any theoretical justification in standard macroeconomic theory.

On the one hand, one could argue that macroeconomic solutions should be needed in as far as dollarisation clearly has macroeconomic causes. On the other hand, the so-called "hysteresis" behind the dollarisation process point to government intervention as an important tool. More generally, economic authorities may want to think in terms of setting up the right incentives for residents to be willing to transact and hold local currency. Both market forces and government intervention should reinforce each other in that regard. As regards market forces, reducing price uncertainty seems key as it would reduce the need of consumers and firms to insure against inflation surprises. One important measure in this

regard includes strengthening the institutions, which promote monetary stability. The European experience shows that a clear focus on price stability and central bank independence are very important improvements on the institutional side.

As for government intervention, prudential regulation should aim at limiting the possibility of agents mispricing risk due to dollarisation. More specifically, prudential regulation should discourage financial intermediaries lending in foreign currency to agents who cannot generate revenues in foreign currency but are attracted by a lower cost of financing. While this measure is reasonable in terms of financial stability, it should be noted that it may encourage disintermediation. This is generally the case of any administrative measures, which may aim at reducing dollarisation.

Finally, empirical results by Edwards (2001), Abrego (2000), Soto (2011), Ghosh, Gulde and Wolf (1998) and Goldfain and Olivares (2000) are not suggestive that dollarised countries experience faster and higher economic growth than non-dollarised countries. In fact Edwards and Goldfain and Olivares results show that dollarised countries experience lower growth rates than non-dollarised countries considering Brazil, Chile and Costa Rica against Panama. The veracity of these results were verified using current data (2002 – 2010 and 2015 projections) from the World Bank and the IMF.

A policy agenda for dollarisation in Nigeria would seem to require a three-pronged approach:

- Ensuring that regulation encourages or, at least, does not penalise intermediation in domestic currency;
- The use of local-currency, or at least indexed, instruments should be promoted; and
- The institutional set-up of a central bank as well as its monetary policy strategy should be geared towards reducing uncertainty about the value of the local currency. This obviously implies that price stability should be central bank's main objective and real independence should be granted so as to facilitate the achievement of this objective.

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