

Channelling The Nigeria's Foreign Exchange Reserves into Alternative Investment Outlets: A Critical Analysis

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ABSTRACT: In recent years, impressive price of crude oil has stimulated the accumulation of foreign exchange reserves in Nigeria. However, observers have expressed fears about the channels of utilisation of the reserves, especially to other alternatives investment outlets. This paper examines the cost-effective propositions of the foreign reserves in Nigeria, and considers alternative investment channels. The study uses data from publications of the Central Bank of Nigeria (CBN), Statistical Bulletin, Annual Reports and Statement of Accounts. It adopts the theory of demand for international reserves based on three motive notably transaction, precautionary and mercantilist. The study among others finds that Nigeria foreign reserve is adequate. The level of reserves to import satisfies the international benchmark etc. The study recommends among others the need to split foreign reserves into four portfolios. The liquidity portfolio, long-term portfolio or investment portfolio, immunization portfolio, and the petroleum fund buffer portfolio or sovereign wealth fund.

Keywords: Foreign exchange reserve; investment outlet; gross domestic product

JEL Classifications: F31; P45

1. Introduction

The Nigerian foreign exchange reserves have grown huge in recent times and have potential to grow higher. The reserves which stands at US\$5.4 billion in 1999 rises to US\$53 billion in 2008 and declines to US\$44.3 billion in 2012. The size of the reserves which has been stimulated by the impressive high prices of crude oil has generated disagreements among stakeholders. The focus of the disagreements is about the channels of utilisation of the reserves, especially alternatives investment outlets it could be channelled into. Two schools of thought have emerged in the debate.

The first school argues that it is incomprehensible that the country while making efforts on wooing foreign investors is also stockpiling foreign exchange reserves. The school opined that the rational thing to do by the country should have been to direct the reserves towards financing of critical infrastructures. This may help to provide employment for the teeming youths who go about without jobs with its attendant consequences on social vices. They also express the view that if Nigeria does not invest within its own economy due to unfriendly environment, it will not make much economic sense asking foreign investors to lead the investment drive. The school holds the view that Nigeria should lead while foreigners should follow suit.

The second school holds a different view about the external reserves. They see the mounting external reserves as a way to protect the country's foreign exchange market volatility, boost credit worthiness, provide for raining day, accumulate wealth, act as insurance against fiscal shock and sudden stop in external capital flows, etc. They also postulate that the absorptive capacity to accommodate huge injection of fund is low suggesting that huge injection into the economy could stimulate macroeconomic instability and impair investment which it intends to grow. The school

further argues that a stable foreign exchange rate is imperative for successful investment policy given that significant input into domestic production is imported.

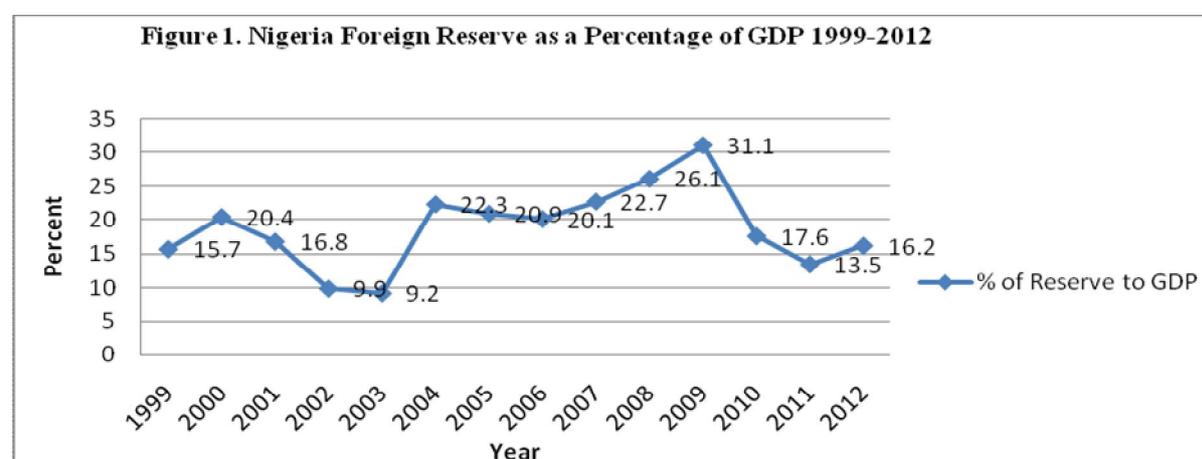
The inconclusiveness of the debates on the acceptable policy choice of managing the foreign exchange reserves has raised some relevant questions. Are the Nigerian external reserves excessive? What are the economic implications of the reserves on Nigeria? What alternative investment channels can the external reserves be put into with a view to generating reasonable earnings? Answers to the above questions would expand the understanding of the National Assembly (NASS) and other stakeholders on the subject matter. Meanwhile, in 2007, Nigeria used part of the reserves to pay off her external debt. This study seeks to examine the investment alternatives into which the foreign exchange reserves of Nigeria can be put into with a view to generating reasonable returns. Specifically, the objectives of the study are to: determine whether the current level of foreign reserves in Nigeria is adequate to meet the needs of the economy; examines the economic implications of the foreign reserves in Nigeria; and appraises alternative investment channels the foreign reserves can be put into. The need to examine the options and advice appropriately cannot be over-emphasised, hence this study.

The study is organised into 6 sections: Section 1 presents the introduction. Section 2 provides a review of the foreign reserves in Nigeria and literature of the study. The methodology and data analysis are presented in Sections 3 and 4, respectively. Section 5 examines countries' experience in managing foreign reserves while policy recommendations and conclusion are addressed in section 6.

2. Profile of Foreign Reserves in Nigeria and Literature Review

2.1. Profile of Foreign Reserves in Nigeria 1999-2012

Nigeria operates guided deregulation system in its foreign exchange market. Therefore, reserves adequacy is critical. Reserve adequacy issues have been examined using methodologies ranging from heuristic and regression analyses to optimization models. Traditional or heuristic reserve adequacy measures relate the level of reserves to the potential for balance of payments imbalances. The standard benchmark levels of reserve adequacy have been developed for countries with managed or fixed exchange rates (Winjnholds and Kapteyn, 2001). Specifically, Nigeria's external reserves are channelled to two major categories of uses, namely; public and private sector uses.



Sources: CBN annual reports and financial statement.

The indicators of foreign exchange reserves have been strong over the years as evidenced in the Figure 1. The reserves which stood at \$9.9billion (20.4 percent of GDP) in 2000 rose to \$10.4billion in 2001, representing 16.8 percent of GDP. Between 2002 and 2003, the contributions of foreign reserves to the GDP reduced to 9.9 and 9.2 percents in spite of noticeable increase in GDP while the value of Naira depreciated from N121.0 to N129.4 during the same period. These downward trends might not be unconnected to the 2003 elections and drawdown on the country's foreign reserves as a result of huge debt repayment to creditors Nations.

The proportions of foreign reserves to GDP have not followed any definitive pattern during 2006-2010. In 2004, there were stronger foreign reserves vis-a-vis GDP increased from 9.2 percent in

2003 to 22.3 percent in 2004. This is more than the ten years average. Immediately after 2004, the GDP though keeps increasing, the proportions of foreign reserves declined between 20.9 percent and 20.1 percent in 2005 and 2006 respectively. However, between 2007 and 2009 improvements occur in both GDP and foreign reserves at an average level 26.6 percent. The foreign reserves drop to \$32.5 billion in 2010 hence, leading to decline vis-a-vis GDP to \$17.6 billion. The CBN Governor however, linked the depletion to outflow of reserves to finance special power projects, replace oil wells that had been bombed and production centres that had been attacked during the Niger Delta crisis and support the naira at the time when it had speculative attack¹

Other OPEC countries have been experiencing increase in their foreign reserves due to ongoing increases in prices of crude oil. Nigeria case has been different especially between 2006 and 2010. The decline over the past years, despite rising oil prices, has raised questions about the quality of the government's economic management² Razia Khan, an Economist with Standard Chartered Bank noted that every time a disbursement was made from the excess crude account (ECA) to the three tiers of government, the foreign exchange component would have been whittled down. This suggests that excessive spending, not naira stability is depleting Nigeria foreign exchange reserves.³

The depleting foreign exchange reserve has strong implication on inflation as a result of excessive spending in the economy. Imported inflation will also result from this. Inflation is the most regressive tax – it hits the poor hardest. Razia Khan further stated that if Nigeria succeeds in keeping inflation under control, then the Real Equilibrium Exchange Rate (REER) appreciation of the Nigerian naira would be contained. Eventually, the hope is, that with Nigeria's comfortable current account surplus, reserves accumulation would resume. Depleting foreign exchange reserves will affect interest rate to decline and this suggest that CBN will have to increase the rate as a way of tightening the monetary policy as well as curbing inflation.

The implication of the depleting foreign exchange reserves on exchange rate suggest that exchange rate is inconsistent with economic reality hence, there is no huge parallel market for wholesale buyers of foreign exchange. External rate more or less reflects market forces and does reflect the reality of external reserves.

Nigeria's foreign exchange reserve is derived mainly from the proceeds of crude oil production and sales. Nigeria produces above 2 million barrels per day of crude oil in joint venture with some international oil companies, notably Shell, Mobil and Chevron and sells a predetermined proportion directly, while the joint venture partners sell the rest. The joint venture partners pay Petroleum Profit Tax (PPT) to the Federal Government through the Federal Inland Revenue Service (FIRS). There are five categories of revenue from crude oil production and sales notably: Direct Sales (NNPC), Petroleum Profit Tax (Oil Companies), Royalties, Penalty for Gas Flaring, and Rentals. Other sources of external reserves in Nigeria include: Income from investing foreign reserves, Repatriation of unutilized WDAS, Interest on WDAS Accounts held by Deposit Money Banks, WDAS Purchases, Inward Money Transfer, Value Added Tax (VAT), Education Tax, Commission, etc.⁴

Nigeria's foreign reserves comprise of three components namely, the federation, the federal government and the Central Bank of Nigeria portions. The federation component consists of sterilized funds (un-monetized) held in the excess crude and PPT/Royalty accounts at the CBN, belonging to the three tiers of government which has not yet been monetized for sharing by the federating units. The federal government component consists of funds belonging to some government agencies such as the NNPC; for financing its Joint Venture expenses, PHCN and Ministry of Defence; for Letters of Credit opened on their behalf, etc. The CBN portion consists of funds that have been monetized and shared.⁵

¹ See Daily Trust Newspaper, 22nd February, 2011.

² See www.234next.com of March 18, 2011).

³ See www.Vanguardngr.com of January 2, 2011).

⁴ www.cenbank.org

⁵ see www.cenbank.org

2.2. Literature Review

Shameen and Moon (2005) stated that Singapore maintains large foreign reserves to sustain its long term economic growth and instituted two major reserve funds or institutions Temasek Holdings and Government of Singapore Investment Corporation (GIC), which invests a portion of the country's reserves in diverse instruments, such as corporate sovereign bonds, equities, real estate holding and private equity holdings in different parts of the world and also through their asset allocation approaches attempt to nurture domestic industries identified as strategically important.

Many countries see reserve accumulation not only as a means for effective exchange rate management, but also as a tool for maintaining low exchange rates in order to promote trade and international competitiveness. This motive for holding reserves is referred to as the mercantilist motive (Aizenman and Lee, 2005). The recent accumulation of reserves in developing countries has been largely interpreted as a form of self-insurance precipitated by the high level of global economic and financial instability and the absence of an adequate international system for crisis management. The 1997 East Asian financial crisis is a good example in this regard (Stiglitz, 2006).

More importantly, reserve accumulation in developing countries is akin to build-up of deficits in reserve asset countries, especially the US. Adjustments in the US might have important costs for the rest of the world, especially reserve-accumulating countries (Stiglitz, 2006).

The accumulation of official reserves as an outcome as well as a means of integration into global financial market is a common factor behind the recent reserve build-up in emerging markets (ECB, 2006). Emerging economies, especially in Asia, have had to accumulate reserves to protect their economies against financial market fluctuations because while they are major players in international trade, they still lag behind in terms of financial market development.

Evidence indicates that the origins of reserve accumulation differ across countries. In Latin America, a persistent current account deficit was balanced by a current account surplus for most of the last decade. Larger capital account surpluses helped some countries such as Brazil and Venezuela to accumulate reserves. Since the 1997 crisis, East Asia has run capital account deficits and continuous current account surpluses, except for China that maintained twin surpluses (UN-DESA, 2007).

Countries that have reserves in excess of the optimal level are shifting them (or part of them) from the low-risk and low-yield investments (mostly treasuries) to high-risk and high-yield assets. These assets are asset that have high returns vis-à-vis large payoff for the initial investment. Because they are usually high risk assets, they must choose carefully which options to put the money into. The most common high risk and high yield assets are land, housing, hedge funds and emerging markets (investment, bonds, annuities, stocks, real estate and mutual funds).⁶ Every country that has invested her foreign exchange reserves in high risk and high yield assets never regretted as long as they are incorporated into a portfolio that includes low risk choices as well. This has also contributed to sustainable development in such countries. The need for Nigeria to embrace this high-yield and high-risk assets will enhance socio economic development that will be of sustainable benefits to the people instead of accumulating reserves.

The challenges of accumulating foreign reserves may impair development in Nigeria. Efforts should be directed at alternative investment outlets with a view to alleviate the prevailing poverty and enhancing economic growth in the country. Countries which channel their foreign reserves to alternative investment outlet record success story.

3. Methodology

3.1. Theory of demand for international reserves

A Central bank as a custodian of nation's reserves of international currencies holds international reserves to fulfill three motives notably transactions, precautionary, and/or mercantilist. The amount of money held is determined by interest rate and the level of national income. Monetarist argued that the demand for money is no longer a function of the interest rate and income but rather the rate of return on a wider spectrum of physical and financial assets.

The theories of demand for international reserves are developed based on these motives. The theories have been examined by many scholars such as Frenkel and Jovanovic, 1981; Ben-Bassat and

⁶ See www.investments.net

Gottlieb, 1992; Aizenman and Marion, 2003; and Aizenman and Lee, 2006, respectively. In emerging market such as Nigeria, Aizenman and Marion (2003) adopted the theory of precautionary savings. They considered it as best applicable because of the wide gaps found between actual and potential outputs in Nigeria (see Abiola, 2002). These resource gaps pose constraints to economic growth in Nigeria and the need to close them cannot be minimised. The need to close this gap depends on investment development such as infrastructure (electricity, water, road, railroad etc.) health and education in the economy.

Country situations differ, and there is no specific level of foreign reserves generally considered either sufficient or most favorable. Advanced economies with highly liquid, floating currencies and stable financial market access in domestic currency are doubtful to derive any important worth from large precautionary reserve holdings. Where currencies are less liquid and market access less than assured, foreign reserves may reduce both the risk and impact of current account shocks or capital account crises (Kyereboah-Coleman, 2009).

3.2. Technique of data analysis

The techniques of data analysis adopted are descriptive and analytical notably ratios, percentages, alongside with charts to determine the degree of openness of the economy, examines the variability in foreign exchange revenue, analyses the extent to which the central bank can back its liabilities and credibly support the maintenance of the fixed exchange rate arrangement in Nigeria, and determines the ratio of reserves to capital account and examines the ratio of reserves to short-term external debt.

3.3. Method of analysis

The following shall determine the methods of analysis (See Islam, 2009; Sachs et al., 1996; Rodrik and Velasco, 1999):

The level of reserves to GDP. Adequacy of foreign reserves is an important parameter in gauging an economy's ability to absorb external shocks. The conventional recommendation is that a country's reserves should be ten percent of its GDP. It is an indicative measure of the relative size of reserves holding (Islam, 2009).

The level of reserves to average level of imports. The rule of thumb is that a country reserves should finance at least 3 months imports. There is need to consider this indicator against the past and expected volatility of current account flows. The essence of this indicator is to prevent domestic consumption from falling in the case of sudden disruption of domestic of domestic production (Abiola, 2011).

The level of reserves to external current account balance. A higher level of reserves is typically sought in countries where shocks to current account flows can be particularly strong, for instance in countries where: (i) the export base is narrow and the price of the few key exports is particularly volatile; or (ii) in countries where natural disasters can severely affect export capacity (e.g., tourism services) and import needs (e.g. food stuffs).

The link between foreign reserves and the financial sector (Monetary aggregates). The ratio gives indication of the extent to which the central bank can back its liabilities and credibly support the maintenance of the fixed exchange rate arrangement. Given the difficulty in measuring capital flight there is no conventional minimum adequate level of reserves, but it has been suggested that the most notable one is that adequacy of foreign reserves should amount to 20 percent of money supply (See Rodrik and Velasco, 1999).

The level of reserves to financial flows. Theoretically, the Balance of Payments (BOP) should be zero. When an economy, however, has positive capital and financial accounts (a net financial inflow), the country's debits are more than its credits (due to an increase in liabilities to other economies or a reduction of claims in other countries) and vice-versa.

The level of reserves to level of debt. The ratio of short-term external debt to reserves is seen as a particularly useful indicator, especially for countries with significant access to international capital markets; and a benchmark value of one for this ratio can serve as a key vulnerability indicator. The benchmark value of one signals that if reserves equal or exceed short-term debt by remaining maturity, a country can be expected to meet its external debt servicing needs for the forthcoming year, even if market access is curtailed. Furthermore, countries with a high ratio of short-term debt to reserves tend to suffer deeper economic crises following any given shock (Sachs et al., 1996). However, the standard yardstick frequently use is 100 percent.

The level of reserves to Inflation. The balance of payments mechanism distributes the world money supply across countries such that the monetary market is in equilibrium in each country. One possible consequence of the accumulation of reserves, however, has been disregarded so far: The effect of rising reserves on the price level. A rise in reserves increases the monetary base as long as it is not fully sterilized. The increased monetary base, in turn, leads through the functioning of the money multiplier to an expansion in the total amount of money. Finally, according to the quantity theory of money, the growth of money causes prices to rise after some delay. This argument is due to Heller (1976) and was confirmed by Khan (1979). There is an additional argument: under fixed exchange rates monetary policy may be constrained by a lack of reserves. If all countries have more reserves, they may choose more expansionary policies.

The level of reserves to exchange rate. The relationship between exchange rate and reserves is well established in the textbook expositions as the latter is used to stabilize a given exchange rate. There are many empirical works that used reserve volatility as determinant of exchange rate. The IMF in 1999 started incorporating reserves volatility among the exchange rate determinants. Other works that have linked the exchange rate and the reserves are Levy-Yeyati and Sturzenegger (2005), Berg et al. (2004) and Bordo et al. (2001).

3.4. Data sources

Data for the study are obtained from secondary sources notably from publications of the Central Bank of Nigeria (CBN), Statistical Bulletin, Annual Reports and Statement of Accounts (various issues) between 1999 and 2012. The following data are sourced: foreign exchange reserves, gross domestic product, levels of imports, monetary aggregate, external current account balance, monetary aggregates, capital and financial account balance and external debt. However, the unavailability of 2012 data limits some of the descriptive analysis to 2011.

3.5. Implications

A number of reserve accumulation implications have been identified for the conduct of monetary policy (ECB, 2006). This further justifies the need for the study: Inconsistencies among monetary policy objectives (price versus exchange rate stability) can evolve; reserve accumulation may also entail risks for the financial sector and medium-term growth prospects; quasi-fiscal costs of sterilisation, defined here as the difference between the yields received for holding foreign assets and yields paid on domestic liabilities issued for sterilisation purposes, may arise; reserve accumulation may also facilitate the emergence of domestic imbalances, specifically if interventions are not fully sterilised and excessive liquidity is generated; continuous reserve accumulation might also imply quasi-fiscal costs, which are here defined as the difference between the yields received for holding foreign assets and the yields paid on domestic liabilities issued for sterilisation purposes

4. Data Analysis

This section presents the results in descriptive and analytical analysis to bring the message clearer to policy makers, academics, scholars among other relevant stakeholders.

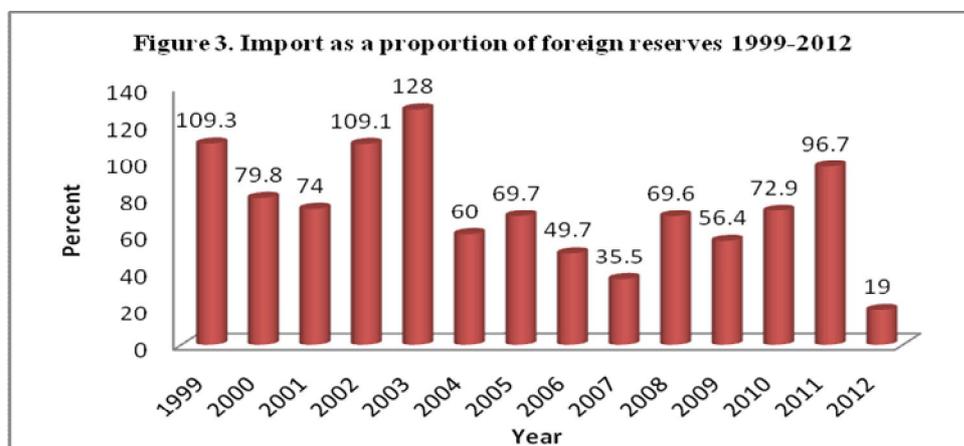
4.1. The optimum level of foreign exchange reserves /degree of openness of the economy

The fraction of foreign exchange reserves to GDP fluctuates between 9.3 per cent and 34.5 per cent in the period of study (see Figure 2).



Sources: CBN annual reports and financial statement.

All the percentages except 2002 and 2003 are above the standard 10 per cent benchmark. Foreign reserve holding is supposed to increase with economic size and the volume of transnational transactions. Therefore, in view of the nature of commodity-based production and exports in Nigeria, both the level and growth rate of output are expected to influence reserve accumulation. However, this suggests that Nigerian foreign reserves is adequate and has the parameter in gauging the economy's ability to absorb external shocks.

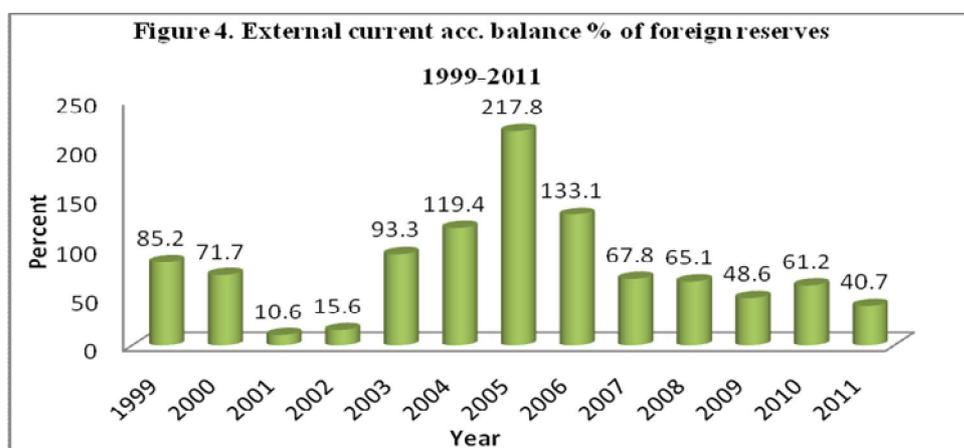


Sources: CBN annual reports and financial statement.

The percentage of imports to foreign exchange reserves is not consistent in the period under review (see Figure 3). For example, between 1999 and 2011, the number of months of imports equivalents stands at 7.6, 13.6, 11.3, 8.2, 6.2, 13.6, 13.1, 22.4, 20.2, 17.2, 17.7, 7.9, and 6.3 respectively. Comparing these figures with other countries such as Saudi Arabia with 31.7 in 2007 and 68.4 in 2009, China with 19.2 in 2007 and 28.7 in 2009, India with 14.0 in 2007 and 12.6 in 2009, Singapore with 7.4 in 2007 and 9.1 in 2009 and Malaysia with 7.8 in 2007 and 8.4 in 2009 suggests that the level of reserves to import is adequate. The above countries disclose that Saudi Arabia and China have both the highest ratio of reserves to imports, with enough reserves to cover imports for more than two years. The insinuation of this to the study implies that Nigeria reserve might not be excess like Saudi Arabia or China but it is adequate thus, the level of reserves to import satisfies the international benchmark that a country reserves should finance at least 3 months imports. It is instructive to note that an import dependent economy like Nigeria should look beyond financing imports with reserves. The need to consider policy that will reduce the amount of imports cannot be minimised.

4.2. The variability in foreign exchange reserve

The external current account balance as proportion of foreign exchange reserves varies between 1999 and 2011 (see Figure 4).

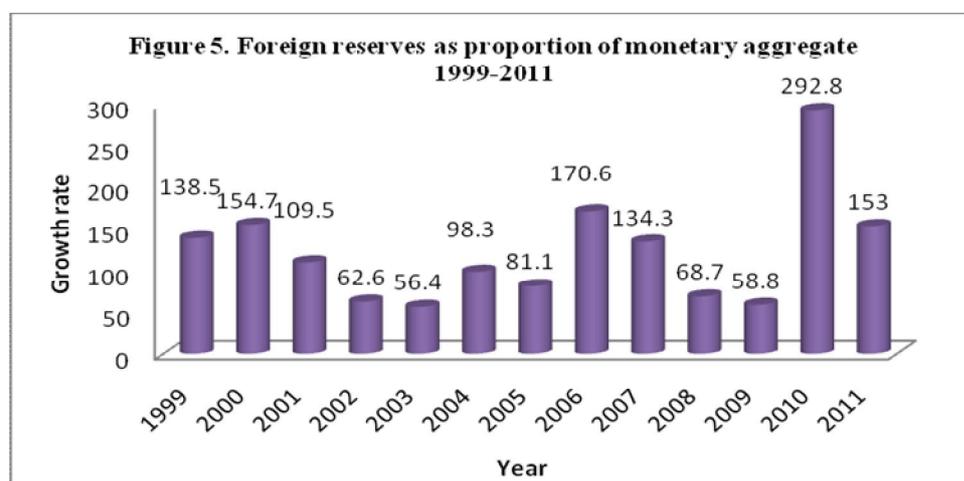


Sources: CBN annual reports and financial statement.

The balancing item in the external account of primary incomes and current transfers represents the surplus (if it is negative) or the deficit (if it is positive) of the total economy on its current transactions (trade in goods and services, primary incomes, current transfers) with the rest of the world. This measures the variability in foreign exchange revenue. Empirical studies on Nigeria’s equilibrium current account balance support this analysis. Theoretically, current account is positively correlated with fiscal balance, economic growth and private transfers and adversely with net foreign assets. For instance, it is current account surpluses that led to the huge reserves accumulation in East Asian countries (see IEA, 2006). This suggests that the Nigerian economy has been experiencing a steady trade deficit both exports and imports are on the rise with import growths outpacing export growth.

4.3. The extent to which the Central Bank of Nigeria can back its liabilities

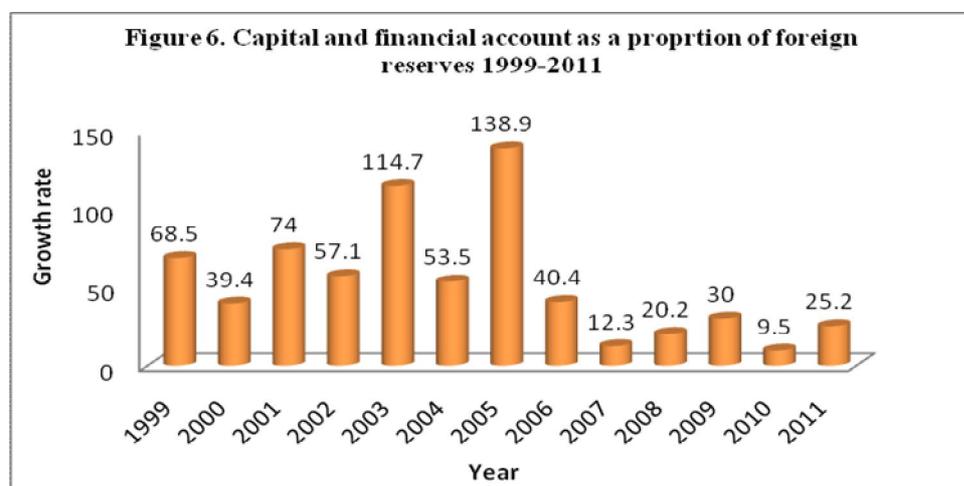
The revelation from figure 5 suggests that in 1999, 2000, 2001, 2006, 2007, 2010 and 2011, the Central Bank of Nigeria (CBN) has more liabilities and credibly supports the maintenance of the exchange rate arrangement than other years. Other countries’ such as Saudi Arabia with 171.0 in 2007 and 176.3 in 2009, China with 27.5 in 2007 and 26.7 in 2009; Japan with 146.8 in 2007 and 122.9 in 2009; Singapore with 78.7 in 2007 and 71.0 in 2009 and Malaysia with 39.4 in 2007 and 29.9 in 2009 suggests that Nigeria performs better. The below statistics implies that the level of reserves to financial flows satisfies the 20 per cent benchmark in the period of study.



Sources: CBN annual reports and financial statement.

4.4. The level of foreign exchange reserves to financial flows

The ratio of capital and financial account balance to foreign reserves did not follow a particular pattern between 1999 and 2011 (see Figure 6).

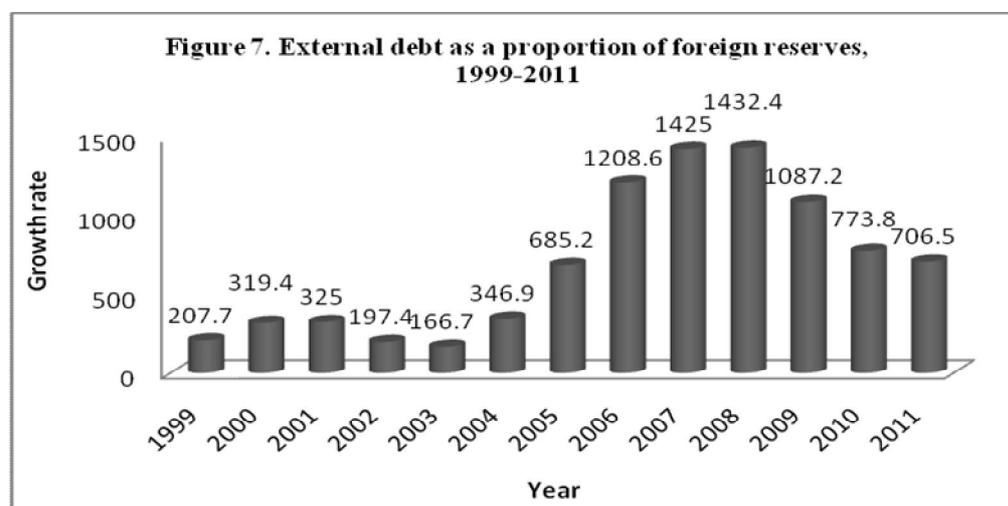


Sources: CBN annual reports and financial statement.

This implies that at an average of 52.6 per cent, the country's debits are more than its credits due to an increase in liabilities to other economies or a reduction of claims in other countries (a net financial inflow). The need to reverse this cannot be minimised.

4.5. The level of foreign exchange reserves to external debt

The information in figure 7 discloses that Nigeria's foreign reserves position is faring well when it comes to reserves to external debt ratio which has gained much currency in reserves literature, particularly countries with a convertible capital account. The ratio remained low between 1999 and 2005 as compared between 2006 and 2011 which is still higher than the standard yardstick of 100 per cent. The average in the period of study stands at 683.2 per cent. Comparing this figures to other countries such as Saudi Arabia with 1066.5 in 2007 and 1376.7 in 2009, China with 124.0 in 2007 and 1790.6 in 2009, Japan with 225.0 in 2007 and 185.7 in 2009, Singapore with 126.2 in 2007 and 147.9 in 2009 and Malaysia with 421.2 in 2007 and 467.2 in 2009 proposes that Nigeria equally performs better. China's reserves of over USD \$2.3 trillion in 2009 could cover the short-term debt of all this countries, and still be above the benchmark for adequacy.



Sources: CBN annual reports and financial statement.

Despite the revelation that exist in the study that growing external debt tends to increase the level of uncertainty in the dynamics of foreign exchange reserves, the implication implies that Nigeria will be able to meet its external debt servicing needs for the forthcoming year even if market access is restrained. However, external debt is significant and positively related to reserve demand.

5. Countries' Experience in Managing Foreign Exchange Reserves

This section examines alternative uses of countries foreign reserves and highlights the lessons for Nigeria from the review of the experiences.

5.1. Overview of countries experience in managing foreign reserves

China has a foreign reserve of USD\$3,312,000 trillion⁷ as at December, 2012 with challenges of managing its huge and growing stock (table 1). The country is the world's largest manager of cross-border assets. Different sources noted that China is one of the few developed countries that do not disclose its foreign exchange portfolio composition data. The market consensus opined that by type of currency 60-70% of the reserves are invested in US dollars (Morrison and Labonte, 2008; Cappiello and Ferrucci, 2008), 30-20% in Euro, and 10% in British pounds, Japanese yen and others (Zhang and He, 2008). The China Investment Corporation (CIC) is charged with the responsibility to manage the reserves with the view to realize a maximization of long-term investment returns with an acceptable risk range. The corporation mainly engages in long-term investment involving overseas financial institutions, real estate, mining, electricity, new energy and other sectors. In particular two-thirds of the investments are domestic, where the return is negotiated (ECB, 2007; Truman and Dowson, 2007).

⁷ see <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2188rank.html>

Table 1. Summary of Alternative Uses of Selected Countries Foreign Reserves

No	Countries	Foreign reserve (USD\$ billions)	Alternative uses
1	China	3,312,000	US government securities, China Investment Corporation (CIC). Invest in financial institutions, real estate, mining, electricity, new energy and other sectors
2	Japan	1,258,809	Liquidity portfolio and an investment portfolio. This includes: time deposits and government bonds, interest rate derivatives and debt instruments bearing a spread over US Treasuries
3	Russia	527,708	Russian Oil Stabilisation Fund (ROSF). To manage the increasing volume of oil revenues and invest in both cash and securities
4	Korea	327,395	Korea Investment Corporation (KIC): They invest in stocks, bonds, property, precious metal and financial institutions
5	United Kingdom	126,793	Exchange Equalization Account (EEA) as a fund for stabilizing the exchange value of sterling
6	Singapore	259,136	Government Investment Corporation (GIC). Invest in diverse instruments such as corporate sovereign bonds, equities, real estate holdings and private equity holdings in different parts of the world

Source: From countries experience.

Japan with a reserve of USD\$1,258,809 trillion as at February, 2013⁸ consists of liquidity and investment portfolios. The liquidity portfolio is mainly placed in securities with a short maturity not exceeding one year. The investment spectrum, which is mostly limited to time deposits and government bonds until a few years ago, now includes other interest rate products, such as interest rate derivatives and debt instruments bearing a spread over US Treasuries; and sometimes even equities. One approach adopted in order to foster diversification along the yield curve and across asset classes, is to split foreign reserves into a liquidity portfolio and an investment portfolio (IMF, 2003; Orok-Duke et al., 2010).

Russia external reserves stands at USD\$527,708 billion as at March, 2013,⁹ and established the Russian Oil Stabilisation Fund (ROSF) to manage the increasing volume of oil revenues. The Central Bank of Russia manages the ROSF and invests the fund's resources in both cash and securities (ECB, 2006).

The Bank of Korea (BoK) holds foreign exchange reserves of USD\$327,395 billion as at February, 2013¹⁰ to maintain a capacity for intervention in the foreign exchange market, to cope with internal and external shocks, and to preserve the value of the national wealth. The foreign reserves that the BoK manages are the portion of Government and BoK assets which are readily available for foreign payments. Since 1997, the BoK has divided its reserves into three different tranches and established different benchmarks for each tranche. The entire liquidity tranche is composed of a single currency, U.S. dollar, as most of the foreign exchange transactions are settled in U.S. dollars, and the U.S. money market is very well developed. In July 2005, parts of the reserve holding of Korea were transferred to a separate entity the Korea Investment Corporation (KIC) with the aim of seeking higher yields. KIC to some extent is seen as the external manager mandated by the BoK with the foreign reserve assets remaining on the balance sheet of the BoK. Korea's major investment is in stocks, bonds, property, precious metal and financial institutions (Orok-Duke et al., 2010; Dhakal, 2007)

The UK has an official holding of USD\$126,793 billion reserves as at February, 2013¹¹ owned by Her Majesty's Treasury (HMT) and comprises of gold, foreign currency assets, IMF Special Drawing Rights (SDRs), and the UK's Reserve Tranche Position (RTP) at the IMF. These reserves are held in the Exchange Equalization Account (EEA) which was established in 1932 as a fund for stabilizing the exchange value of sterling (IMF, 2003).

⁸ <http://www.imf.org/external/np/sta/ir/IRProcessWeb/colist.aspx>

⁹ http://www.cbr.ru/eng/hd_base/mrrf/main.asp?C_mes=12&C_year=2012&To_mes=12&To_year=2013&mode=&x=36&y=9

¹⁰ <http://www.imf.org/external/np/sta/ir/IRProcessWeb/colist.aspx>

¹¹ <http://www.imf.org/external/np/sta/ir/IRProcessWeb/colist.aspx>

Singapore has an external reserve of \$259,136 billion as at February, 2013¹². The external reserves of Singapore are managed by the Monetary Authority of Singapore (MAS). In response to the rapid growth of Singapore's external reserves holdings, Singapore instituted the Government Investment Corporation (GIC), which invests a portion of the country's reserves in diverse instruments, such as corporate sovereign bonds, equities, real estate holdings and private equity holdings in different parts of the world. The main objectives of these moves are to achieve higher long term returns and to preserve the assets' value for future generations hence, the funds are sometimes referred to as 'future generation' or 'heritage' funds (Orok-Duke et al., 2010; Dhakal, 2007; Shameen and Moon, 2005; <http://en.Wikipedia.org/wiki>).

Table 2. Foreign holders of U.S. (USD billion) securities by selected countries in 2008

Country	Total	Equity	LT treasury debt	LT government Agency debt	LT corporate debt	ST debt
Japan	1,250	199	568	270	149	66
China	1,205	100	522	527	26	30
UK	864	376	45	26	394	24
Total	10,322	2,969	2,211	1,464	2,820	858

Source: U.S. Department of the Treasury. Note: the data refers to the end of June in Wei Hu1, (2010)

Most countries invest their external reserves in US securities. Table 2 gives the data for selected largest external reserves countries in terms of holding value of U.S. securities. It shows that as at June 2008 Japan recorded the largest holder by value (although only slightly higher than that of China) with USD 1,250 trillion Of U.S. securities and China held USD 1,205 trillion Of U.S. securities accounting for 11.7% of the total U.S. securities held by foreigners. The UK has an approximation of USD 864 trillion. In comparison¹³, the largest holder (Japan) had relatively the same amount of U.S. Treasury bonds, but with much lower investment in the U.S. government agency bonds. Meanwhile Japan invested more than China in higher risk assets, i.e. equity and long term corporate debts.

5.2. Lessons for Nigeria

Cross-country experiences show that countries have attained success in diversifying their external reserves to four basic portfolios. The liquidity portfolio, long-term or investment portfolio, immunization portfolio, and the Petroleum fund buffer portfolio. The experiences noted that liquidity portfolio is used in connection with the conduct of monetary policy for possible foreign exchange interventions and to influence liquidity and interest rates. In order to foster diversification of foreign reserves, appropriate investment corporations were instituted to manage external reserves with the aim of seeking higher yields. These yields are in turn invested in the country's economy by the provision of infrastructures, and the provision of basic necessities such as health, education, among others.

The immunization portfolio is intended to neutralize foreign exchange and interest rate risk associated with external debt and the establishment of petroleum buffer fund. Most oil producing countries establish Sovereign Wealth Funds (SWF) or Oil Stabilisation Funds (OSF) since the size of their reserves is stimulated by increasing prices of crude oil. These funds have become the primary government sponsored financial vehicles for managing national wealth, focusing on investments with far higher potential returns than in the past for the benefit of the nation's economy and its citizens. This helps to reduce the excessive pressure on their domestic currencies and price levels.

Currency risk has been one of the important factors affecting returns of foreign reserves investments in the U.S. Therefore, given the condition that Naira will appreciate against the US dollar gradually in the future, Nigeria foreign investment should be channeled into other currencies, such as Pounds and Euros.

In the absence of a deep reform of the global financial architecture, emerging markets such as Nigeria accumulating foreign exchange reserves will be exposed to sudden stops and deleveraging crises; and the proper management of the external debt of the economy will now remain a key

¹² <http://www.imf.org/external/np/sta/ir/IRProcessWeb/colist.aspx>

¹³ http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp421_en.pdf

challenge. It will be appropriate if Nigeria could follow the path of countries experiences by expediting its institutional reforms through the channelling of her foreign reserves to investment outlets such as financial institutions, real estate, mining, electricity, new energy, stocks, bonds, and precious metal to enhancing economic growth.

Diversifying of Nigeria external reserves into other investments as highlighted above has benefits in different areas. It will grow and empower the private sector; provide employment opportunities; enhance quality of lives; enhance socio, political, cultural and economic activities; stemming the tide of rural-urban migration, which no doubt affected poverty reduction; grow the economy; and provide the base for sustained development of the country.

6. Conclusion and Recommendations

NASS and other stakeholders may find this recommendation useful in diversifying Nigeria's foreign exchange reserves to other alternative investments: The need to establish a commercial oriented investment company charged with the responsibility to manage the reserves in order to maximise long time investment returns; The development of infrastructure funds that should include private sectors either local or foreign stakeholders (i.e. Public Private Partnerships) whereby the government provides funds and the private sectors offer their technical expertise; Nigeria's foreign exchange reserves should also be kept in other currencies such as the Pounds and Euros other than Dollars; and The need to split external reserves into four (4) major portfolios: The liquidity portfolio (this is used in connection with the conduct of monetary policy for potential foreign exchange interventions and to influence liquidity and interest rates); The long-term portfolio or investment portfolio (this is available for market operations but invested on the basis of more long-term considerations); The Petroleum Fund buffer portfolio or Sovereign Wealth Fund (this receives capital daily from excess crude oil/petroleum sold, and is transferred to this fund on a monthly basis), and The immunization portfolio (this is equivalent to government foreign currency debt and is intended to neutralize foreign exchange and interest rate risk associated with this debt).

The importance of diversifying Nigeria's foreign exchange reserves to other investment outlets cannot be underscored. Cross countries experience have exposed that it is valuable and achievable. Channelling Nigeria's external reserves to other investment outlets will help drive the economy rapidly. The country's reserves are adequate but might not be in surplus compared to best practices if one considers all the reserves adequacy measures. The study suggests that to reduce the opportunity cost of holding Nigeria's foreign exchange reserves, part of the reserves may be invested for economic development in the areas of health, education, and the provision of infrastructures (such as electricity, good water, road, railroad etc) that will further minimise poverty. Thus, this is in consonant with the first school among the two schools of thoughts emerged in the debate. It is expected that the recommendations will serve as a great input in the debates on appropriate policy alternative of managing foreign exchange reserves in the country.

References

- Abiola, A.G. (2011), Channelling of the Nigerian Foreign Exchange Reserves into Alternative Investment Outlets. A Policy Analysis Report Series. *Policy Analysis and Research Project*, National Assembly, Abuja-Nigeria.
- Abiola, A.G. (2002), "Estimating Output Gaps and Capacity Utilization in Nigeria: 1970-1999". *Journal of Economics*, Department of Economics, University of Ado-Ekiti, Nigeria, 2.
- Aizenman, J., Lee, J. (2006), "Financial Versus Monetary Mercantilism-Long-Run Views of Large International Reserves Hoarding." *National Bureau of Economic Research, Working Paper No. 12718*.
- Aizenman, J., Lee, J. (2005), International reserves: precautionary vs. Mercantilist views, Theory and Evidence. *IMF Working Paper Working Paper /05/198*.
- Aizenman, J., Marion, N. (2003), The High Demand for International Reserves in the Far East: What Is Going On? *Journal of the Japanese and International Economies*, 17, 370-400.
- Ben-Bassat, A., Gottlieb, D. (1992), Optimal International Reserves and Sovereign Risk. *Journal of International Economics*, 33, 345-362.
- Berg, A., Borensztein, E., Pattillo, C.A. (2004), Assessing Early Warning Systems: How Have They Worked in Practice?, *IMF Working Papers 04/52*, International Monetary Fund.

- Bordo, M., Eichengreen, B., Klingebiel, D., Martinez-Peria, M.S. (2001), Is the Crisis Problem Growing More Severe? *Economic Policy*, 16(32), 51-82.
- Cappiello, L., Gianluigi, F. (2008), The Sustainability of China's Exchange Rate Policy and Capital Account Liberation. *Frankfurt: European Central Bank. Occasional Paper*, No.82.
- Dhakal, G.P. (2007), Foreign Reserves: Potential Source of Financing for Development (Lessons in Good Practices from Selected Countries). *Asia-Pacific Trade and Investment Review*, 3(1), 145-154.
- ECB, European Central Bank (2007), The sustainability of China's exchange rate policy and capital account liberation. *Occasional Paper: No. 82* (March).
- ECB, European Central Bank (2006), The accumulation of foreign reserves. *Occasional Paper: No. 43* (February).
- Eichengreen, B. (2006), Insurance underwriter or financial development fund: what role for reserve pooling in Latin America?" *NBER Working Paper* No. 12451.
- Elhiraika, A., Ndikumana, L. (2007), Reserves Accumulation in African Countries: Sources, Motivations, and Effects. Department of Economics, *University of Massachusetts, Amherst, USA Working Paper* 2007-12.
- Engle, R.F., Granger, C.W.J (1987), Co-integration and error-correction: Representation, estimation and testing. *Econometrica*, 55(2), 251-276.
- Frenkel, J.A., Jovanovic, B. (1981), On Transactions and Precautionary Demand For Money, *NBER Working Papers* 0288, National Bureau of Economic Research, Inc.
- Frenkel, J.A., Jovanovic, B. (1980), On Transactions and Precautionary Demand for Money, *The Quarterly Journal of Economics*, 95(1), 25-43.
- Heller, R. (1979), Further evidence on the relationship between international reserves and world inflation, in Michael J. Boskin (ed.), *Economics and human welfare: essays in honour of Tibor Scitovsky*, New York.
- Islam, M.S. (2009), An Economic Analysis of Bangladesh's Foreign Exchange Reserves. *Institute of South Asian Studies (ISAS) Working Paper*, No. 85 –Date: 7 September.
- International Monetary Fund (2003), Guidelines for Foreign Exchange Reserve Management.
- Khan, M.S. (1979), "Inflation and international reserves: a time-series analysis", *IMF Staff Papers* 26, 699-724.
- Kyereboah-Coleman, A. (2009), Reserves and Foreign Exchange in the Macroeconomic Context. *Presentation at Regional Course on Optimising Reserves and Foreign Exchange Management for Income Generation organised by WAIFEM*, May 11–15, 2009, Accra, Ghana.
- Levy-Yeyati, E., Sturzenegger, F. (2005) Classifying Exchange Rate Regimes: Deeds Vs Words, *European Economic Review* 49(6), 1603-1635.
- Orok-Duke, O.E., Omor-Egbeji, J.O., Ekott, G.A. (2010), Critical Review of Managing and Building Foreign Reserves for Economic Development in Selected Countries (Conceptual Issues, Management and Experience). *Social Science Research Network*.
- Rodrik, D. (2006), "The Social Cost of Foreign Exchange Reserves", *International Economic Journal, Korean International Economic Association*, 20(3), 253-266.
- Sachs, J., Radelet S. (1998), The East Asian Financial Crisis: Diagnosis, Remedies, Prospects. *Brookings Papers on Economic Activity*, 1, 50-66.
- Shameen, A., Moon, I. (2005), Asia cannot live by T-notes alone, *Businessweek Online*, June 6, <www.businessweek.com/magazine/content/05_23/b3936141_mz035.htm>.
- Skandck, M. (2003), Fiscal Policy and Petroleum Fund Management in Norway", in *Fiscal Policy Formulation and Implementation in Oil-Producing Countries*, edited by J. M. Davis, R. Ossowski, and A. Fedelino, International Monetary Fund, Washington, D.C.
- Stiglitz, J. (2006), *Making Globalization Work*". W.W. Norton and Company, New York. USA.
- Truman, E.M., Dowson, D. (2007), Management of China's International Reserves: China and a SWF Scoreboard. Conference on China's Exchange Rate Policy. Peterson Institute for International Economics. Oct. 11 [http://en.Wikipedia.org/wiki List of Countries by Foreign Exchange](http://en.Wikipedia.org/wiki/List_of_Countries_by_Foreign_Exchange)
- UN-DESA, United Nations Department of Economic and Social Affairs (2007), *LINK Global Economic Outlook*. United Nations, New York.
- Waggoner, D.F., Zha, T. (1999), "Conditional Forecasts in Dynamic Multivariate Models", *Review of Economics and Statistics*, 81(4), 639-651.

- Wei Hu, Y. (2010), "Management of China's foreign exchange reserves: A case Study on the State Administration of Foreign Exchange (SAFE)". *Economic Papers* 421, July 2010, European Union, 2010. Retrieved on 26 April. 2103 from ec.europa.eu/economy_finance/publications.
- Winjuholds, J., Kapteyn, A. (2001), Reserve Adequacy in Emerging Market Economies. *IMF Working Paper* 01/143, Washington DC: International Monetary Fund.