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Impact of 2007- 2009 Global Financial Crisis on Cocoa Exportation in Nigeria

Ojong, C. M. (Associate Professor)
Banking and Finance Department, Faculty of Management Sciences,
University of Calabar, Nigeria.

Bassey, Bernard Esor-Eze
Banking and Finance Department, Faculty of Management Sciences
Ebonyi State University, Abakaliki, Nigeria

Ogar Anthony
Banking and Finance Department, Faculty of Management Sciences,
University of Calabar, Nigeria.

Abstract

The essence of this study is to examine the impact of the global financial crisis of 2007-2009 on cocoa production in Nigeria. Although the crisis had its roots in American financial markets, it percolates very rapidly to other economies throughout the entire global financial markets through several transmissions medium. Our main concern was to determine if the crisis in question created any structural changes in cocoa export in Nigeria or not. To achieve our objectives, we collected data spanning from 2004 to 2014. Subsequently we divided our sample into two subsamples- pre crisis period, post crisis period and applied the least square technique to the two subsamples and the pooled sample to test the statistical significance of all the identified variables. It appears that the crisis did not produce any structural changes in cocoa export in Nigeria. In the light of this finding, it is our considered opinion that Cocoa export offers alternate source of stable foreign exchange earnings that is immune from negative demand shocks and vagaries of uncertainty. Therefore, it behooves on the Nigerian policy makers to evolve policies that will promote Cocoa production in order to diversify the Nigeria economy and forestall the drift that Crude oil price volatility has exposed her economy to.

Key words: Cocoa, global financial crises, financial market, financial crises, export

INTRODUCTION

The global financial crisis which had its roots in major financial markets of United States of America that almost crippled the global financial system from 2007 to 2009 had been thoroughly investigated by many different groups around the world. The series of events which culminated to what is today known as the global financial crisis was actually triggered by a mixture of causes, some of which lies partly within the broad innovations of financial engineering ingenuities, such as securitization and collateralization of financial assets, regulatory inadequacy, global inequality, to mention but a few (Esu and Awara, 2010 and Owoye, 2011). Unlike previous crises that cropped up from emerging and developing economies, such as the currency crisis of Asian countries in 1997, Brazil in 1999, Ghana in 1982, Swiss in 2004, Argentina in 2001, Mexico in 1994, Russia in 1998, Nigerian banking crisis in 1952, 2004 and 2009, among others, the recent global crisis originated from the world's largest financial hub, generating ripples of unprecedented shocks the world have ever

experienced since the great depression in the 1930s (United Nations Commission on Trade and Development, UNCTAD, 2010).

The first major manifestation of an imminent crisis was the bursting of United States subprime housing market bubble, followed by strings of interrelated events which have been thoroughly discussed in previous related studies (Babatunde and Busari, 2009; Esu and Awara, 2010; Kose, Prasad, Rogoff and Wei, 2009; Ajakaiye, Fakiyesi and Oyinlola, 2009). The subprime housing upheaval erupted in United States following a large scale defaults by mortgage borrowers who had taken out the subprime loans. According to Lucjan (2008) quoted by Bai (2012), the financial crisis can be encapsulated into four phases, with one phase degenerating into the next. The first phase being the bursting of the housing bubble fueled by unregulated subprime lending already mentioned, followed by its contagious spreading to other financial assets and institutions that are not necessarily mortgage related. Thirdly, it deteriorated into a global liquidity crunch because of the massive panic withdrawals from some too-big-to-fail financial institutions in the likes of Lehman Brothers, Northern Rock, Bear Sterns and others, inducing similar pull out of liabilities on a global scale. Finally, the collapse of collateralized debt obligations (CDOs) triggered a concomitant liquidity crunch in the commodity futures markets on both NYSE LIFFE exchange in London and on ICE futures U.S. exchange in New York, as well as causing spontaneous bubble effects worldwide in a very frenzy manner.

The truth is that the domino effects of the crisis caught many, even the so acclaimed experts and technocrats in International Monetary Fund (IMF), World Bank (WB) and even pundits in many respected central banks of established economies, unawares. As a matter of fact, the severity of the crisis incited waves of general fear and perplexity, which shook the entire financial market to its very foundation. Hardly is any country spared from the attack (Khitoliya, 2014). Greece, Spain, Portugal and Italy, for example, are currently enmeshed in deep credit default (debt) crisis, which is threatening the European Union single market initiative but not for the massive bailouts. Another pointer to this claim is the stalemate in the United States' House of Congress over the deficit cliff that grounded economic activities to a halt in 2013 fiscal year. If the recent reports about a gloomy picture of Brazil and South Africa economies drifting towards a recession, Nigeria rising debt profile, are not mere coincidence, then it might not be out of place to conclude that some countries are still in the throes of the crisis (Akanbi and Adeyeye, 2010, Reinhart and Rogoff, 2014). It could also be said that symptoms of the crisis keep manifesting in different guises

The consequences of the crisis in question have been multidimensional in its persistence. The realities of the crisis still confront many countries in different ways. In fact Nigeria, other Sub Saharan African and emerging countries experienced the impacts of the financial crisis through different transmission channels including shortfalls in foreign exchange earnings, foreign aids and grants, foreign direct investments, remittances by African workers abroad, tumbling in the money and capital markets, devaluation of local currencies, contraction in global trade and others articulated in Ajakaiye, Fakiyesi and Oyinlola (2009) and, Arieff and Jones (2010). According to CBN (2010), the crisis appeared fiercer on the domestic economy in 2009 than in 2008 through falling commodity prices, reduced net capital inflows, dearth of trade finance and credit flows.

The contraction in global trade and trade finance driven by falling demand deserve special attention. The export markets rely heavily on trade finance and international credit lines which were drying up continuously on account of the severe global liquidity crunch, forcing a concomitant decline both in trade finance availability and volume of exports. The situation is

quite appalling for countries like Nigeria, whose economic policies and pace of economic growth, are often influenced by the dynamics of international markets projections (Babatunde and Busari, 2009). For instance, while the Nigeria exports volume index stood at 127. 18 in 2007 it declined grossly to 119.63 in 2009 but rallied upward to 143.47 in 2011, aggregate export trade of developing countries staggered from 4.4 % to (-11.7) % from 2008 to 2009 respectively, relative to a dramatic decline in world trade amounting to a loss of $ 760.00 billion in aforementioned period (IMF, 2010). The export situation in the post crisis era was nowhere better. According to CBN's 2013 annual report released in 2014, the non crude oil component of exports also exhibited a sharp decline to N 1.48 trillion in the third quarter of 2013 compared to N 4.63 trillion in the corresponding quarter of 2012.

Trade finance which is the lubricant oiling the vehicle of global exports dropped significantly such that it could hardly guarantee sustainability of international trades. Some studies have argued that the availability of funds did not constitute great constraints as much as the high cost of accessing them because of credit tightening regime fostered by the fragile banking environment. Although the amount of trade finance and credit that dried up during the crisis varied across different economies, the cost of funds as measured typically by the interest rate spreads fluctuated sporadically above policy rates in almost all the regions. Also the decline in the volume of Commercial Papers CPs was much evident throughout the globe. In US alone, about 40% CPs were cancelled in 2008, while in Nigeria it swung from N 822.71 billion in 2008 through N 509.12 billion in 2009 to as low as N 189.2 billion in 2010.

These developments coupled with falling commodity prices and massive devaluations of some countries' currencies especially those of Sub-Saharan Africa and other emerging countries, to keep pace with the dwindling global demand portend severe consequence on trades, particularly export markets. The falling commodity prices appears to have a more domineering impact on the exports of many developing countries where commodity exports is the major source of revenues from which they finance their annual budgets (Mardani, 2014; World Bank, 2009; Reddy, Ram, Sastry and Devi 2009).

These, in the case of cocoa production and export are unique in many ways. Cocoa business is a volatile one. Although 80% of total world output is from West Africa tropical rain forest zone, its pricing mechanism is rather determined by speculative logics of futures exchange markets somewhere in America or London that is clearly beyond the influence of cocoa farmers. It is also one major cash crop that marketing structure has witnessed series of government policy reversals, some of which included the establishment of commodity marketing board on the one hand, and liberalization of the cocoa sector in the other hand. These turns of events would definitely have widespread implications for the prospects of cocoa export in Nigeria.

Prior to the discovery of petroleum in commercial quantity, cocoa and other cash crops such as oil palm fruits, groundnut, cotton and rubber were the major earners of foreign exchange for the Nigerian government. Cocoa, according to a study conducted by Monitoring African Food Agricultural Policies (MAFAP, 2013), commands the largest percentage of agricultural exports in Nigeria even when its share of the entire agricultural GDP accounts for less than 5%. In fact, cocoa was the mainstay of the old Western Nigeria economy; accounting for more than 88% of the region's earning and providing massive employment for its teeming population. However, total cocoa output has continued to drop over the years for some inexplicable reasons.

Statement of Problem

At the onset of the global financial crisis, divergent opinions were expressed based on their individual perceptions concerning the impact of the crisis on the Nigerian economy. While some have contended that the crisis would not impact on the economy negatively, others have argued otherwise. Of note is the position of Charles Soludo, the former Central Bank Governor was reported to have informed the Nigerian Senate that on the account of weak integration of our banking sector to the global financial market, the ripples would not affect the economy and, if in any case it does, the impact would be negligible.

On the other side of the debate, some however, criticized the assessment as limiting and lacking in not a few ways. According to Owoye (201l), Akingunola and Sangosanya (2011) and, Akanbi and Adeyeye (2010), the problem with the former Governor's assertion is that he grossly ignored the complex and subtle interplay of economic logics, which the banking system was only a part of. Owoye (2011) relying on the sentiments previously expressed in Ake (1982) and Onimode (1991) on the vulnerability of the Nigerian economy, had concluded otherwise. Like its other counterparts in less developed economies, Nigerian economy depends heavily on imports from these crisis-laden countries for food, fabrics, technology, finished goods, productive capital, various kinds of assorted inputs for agricultural and industrial activities, and export market. From this line of reasoning, therefore, he queried how Nigeria can be immune from the derivative crises of capitalist production processes. Thus, the implications of the crisis on the Nigerian economy are debatable as there seems to be lack of consensus among researchers.

However, against all optimism, there was a sharp drop in the volume of exports like crude oil, cotton, cocoa and others that constitute the basket of Nigerian' commodity exports (Nigeria Export Promotion Council, 2010). This contraction in global trade is reported to have worsened the volatile market situation of commodity exports exacerbated by a drop in global aggregate demand reinforced by a concomitant decline in trade financing may be because of credit crunch within the international financial market (UNCTAD, 2010; IMF, 2009 and CBN, 2011). This in the context of this study, the global demand for cocoa, according to International Cocoa organization (ICCO, 2011) is reported to have plummeted by a very wide gap of 13% forcing a staggering decline of 30% in price from USD 3,674.00 to as low as USD 2,572.00 per metric ton in 2009. The question which has been largely ignored in many studies, is what does this sudden development portends for export trades vis-à-vis economic growth of Nigeria in the long run?

Government's receipts and earnings from foreign trades dropped substantially, necessitating a review of exports policies and bilateral trade strategies to keep pace with the dwindling revenue profile. Secondly, the Naira was relatively devalued against other major international currencies. These were done with a view of boosting commodity exports which have dropped drastically within a short period of time. Unfortunately, all commodities do not have the same price elasticity, thus certain policy responses such as currency devaluation to mention but a few, may not likely yield the expected results for the different class of commodities going by the axioms of classical economic theory (Mardani, 2014). For cocoa export, which is mostly consumed among these financial crisis-precipitating countries of America and European Union, the implications of this crisis on cocoa exports in Nigeria are largely unknown. It is on this premise that this study is being undertaken.

Objectives of the Study

From the foregoing, the broad objective of this study, therefore, is to determine whether the global financial crisis that relapsed to economic crisis had any impact on the cocoa export in Nigeria, or not. The specific objectives include

1. To find out whether the global financial crisis had any impact on the volume of cocoa export
2. To find out whether the global financial crisis had any impact on the value of cocoa export
3. To determine whether the financial crisis led to any structural shift in cocoa exports in Nigeria

REVIEW OF RELATED LITERATURE

Concept and Nature of the Global Financial Crisis

Broadly speaking, an organization is said to be in financial crisis when there are sudden changes in the economic or financial variables that is beyond the threshold values of their earning assets, to the extent that it is unable to fulfill its obligations to its stakeholders, as well as its residual shareholders alike (Kindleberger, 1978; Minsky, 1986). Several definitions have been attempted by different scholars and institutions over the years, with each trying to reflect or juxtapose the prevailing circumstances warranting each episode at that point in time. For reasons of space and time, we cannot exhaustively list all of them but point out concisely those critical elements that have meaningful bearing on the focus of our study. Two phrases that appear common in all the strands of definitions suggest that though financial crisis is an amalgam of sequential events, it is more of a shock to the financial markets which "is characterized with free falling in assets values", and with an attendant capacity of "disrupting efficient allocation of economic or financial resources in the markets".

For the purpose of this study, we adopt the description of financial crisis by Financial Times, " as a disturbance to the financial markets associated typically with falling in asset prices and insolvency among debtors and intermediaries, which spreads through the financial system, disrupting the market's capacity to allocate capital" (Financial Time, 2009). This definition is apt in the context of this topic, as it includes additional stylish fact of financial crisis- its raging contagiousness, which actually depicts the true nature of the 2007 to 2009 global financial crisis, and at the same time, aligning the crisis into proper perspective.

After all, the 2007–2009 global financial crisis is not different from the other previous financial crises known to man. According to Garber (2000) quoted by Claessen and Kose (2013), asset price bubbles which is partly regarded as one of the prime causes of 2007-2009 episode is not entirely new, some historical cases include Dutch Tulip Mania from 1634 to 1637, the French Mississippi Bubble in 1719-20, the South Sea Bubble in the United Kingdom in 1720. Recently, we have the Germany and Spanish Banking crises of 1977, Asian Currency crisis in 1997 to 1998, Russian defaults crisis in 1997, Mexico currency problems in 1994 and Nigerian Banking crises, among others. Another thread of similarity can be drawn from Asian and Mexico currency crises. The Asian currency crisis of 1997-1998, for example, although emanated from Thailand's financial system as a currency crisis, within a short period crippled the fabrics of her real economy and spread quickly to the neighboring countries within the South East Asian region like a wild fire (Mardani, 2014;). In the case of Mexico, the crisis turned systemic also, and spread to the real sector of her economy, but was swiftly localized within. Same is also true of Argentina banking crisis in 2001. What perhaps separates the 2007 to 2009 global financial crisis from others previously known in history is the scale and depth of

its contagiousness, and secondly, its point of origin which of course, is the largest finance and economic hub with vast arrays of linkages and interconnectedness (for trades, technology, military expertise, FDI, ODA, etc.,) across the entire world, with globalization providing the undercurrent embers and trappings of being systemic (Reinhart and Rogoff, 2008).

Regardless of which episodes we are considering, the causes of financial crises are broadly categorized into two distinct types namely, the monetarist and eclectic views. While the monetarists linked financial crises to bank panics because of the impact of aggregate money or credit supply (partly influenced by banks' profit motive) on economic contraction, the eclectic's school of thought viewed financial crises as evolving from slumps in assets prices, exchange rates deteriorations, regulatory inadequacies and markets failures (Claessen and Kose 2013). In fact, given the individual manifestations and anatomy of 2007- 2009 episode, which are espoused in Lucjan (2008), we cannot but marry the two views together since any of the two opposing views complement the other, and likelihood of one triggering or cascading into another, even though the theory of assets and credits price bubble has attracted renewed interest in formulating robust models (like GARCH types, Arbitrate Pricing Theory, etc.,) without which exploits in financial engineering may still remain rudimentary (Engel, 1982; Krugman, 1988; Reinhart and Rogoff, 2007). In the case of the episode under consideration, Adamu (2009) enumerated the causes of the crisis to include boom and bursts in the housing markets, poor credit rating, speculative pressures, liberalization of global financial regulations, net financial architectures and, regulatory and supervisory failures. New emerging factors identified in recent studies are explosion of sophisticated financial instruments– securitizations, interconnectedness between financial markets, bogus leverage of the financial institutions, global imbalances and the vital role of household sector (Claessen and Kose, 2013).

Just as it is difficult associating the causes of financial vulnerability to a single factor, it is even more challenging identifying a single leading indicator to measure financial crises, talk less of predicting any of them. Different leading indicators have been employed in several studies depending on the types and time-variant of crisis being investigated. Although there seemed to be lack of consensus on the specific set of leading indicators, a checklist of macroeconomic and financial variables frequently used in literature include some of the followings; currency crashes, reserves bleeding, current account deficits, Gross Domestic Product (GDP) slumps, drop in equity prices and a fall in exports, others are rise in broad money (M2) multiplier, rise in real interest rates, rapid growth in credit, assets prices, fiscal deficit, public debt and inflation (Frankel and Saravelos, 2011; Cardarelli, Elekdag and Lall, 2009). The application of ratios as leading indicators is also rampart in literature. Obstfeld (2012) compared a set of ratios such as broad money (M2) relative to internal reserves, banks' non core to core-liabilities, short term capital flows to GDP, and current-account deficit relative to investment to investigate the incidence of the crisis in 18 countries affected by 2007-2009 episode. High ratio values imply that such countries or organizations were vulnerable to the crisis. And, from the point of view of international trade, deteriorations in terms of trade, shocks to world interest rates and commodity prices are proven indicators to weigh incidence of financial crises on a global scale. One instance is the sovereign defaults crisis by Argentina, Brazil, Mexico and other Latin American countries in 2001 because of the change in interest rate regime in United States (Claessen and Kose, 2013; Reinhart and Rogoff, 2007) .

The impacts of financial crises are deep as well as broad; ranging from social aspects through economic realities to financial superfluities. Financial crises come with real costs and pains; it leaves many individuals, including societies and organizations traumatized. For example, when

the Nigeria stock market crashed in the last quarter of 2008, some folks who acquired shares with borrowed money and hard savings are still counting their losses and emotional stress, because the market is yet to recover to its pre crisis level of capitalization (Olowe, 2009). As regards the financial implications, the costs are also real. The credibility and integrity of the whole financial system including the payment systems and several institutions involved in intermediations processes are seriously impaired. According to Anyanwokoro (2009), bank business is a delicate one that strives on trust, and once public confidence or sentiments is hurt, bank panics and runs are inevitable. Financial crises have the adherent capability of eroding public trust to the extent of breeding crisis of confidence between participating institutions. (Barnes, 2010). Yet still the effect of the global financial crisis on economic activities is enormous. There was no real sector of the Nigerian economy that was spared by the ravenous scourge of the global financial crisis in 2007-2009. Of particular interest is the impact of the crisis on commodity exports especially cocoa, which evidence from some previous results have been mixed in literature.

Research Review

The impact of the global financial crisis on export trades vary significantly across regions and nations, and from one class of products to the other. Beginning with Asian countries, whose economies were reduced to ashes by the financial turmoil of 1997 to 1998, they were not only resilient but also fortified themselves against the scourges of 2007 to 2009 global financial debacle. In Indonesia, for instance, Mardani (2014) investigated the impact of the Asian and Global financial crisis on Indonesia exports using gravity model. He found that the impact of the crisis on Indonesian exports was relatively mild. He attributed this to the low ratio of her export to GDP which is about 24% when compared to Thailand, Singapore, Malaysia and South Korea with higher percentages. Mardani (2014) further contended that contrary to economic projections, devaluation of the nation's currency did little or no impact to change the direction of exports. This finding tallied with the evidence of an earlier studies conducted by Firdaus (2011) and Basri (2010). Of the three studies, Firdaus (2011) captures, however, a larger picture of the bewilderment as the study did not only recognise that the wide fluctuations in export values was triggered by corresponding fall in prices, but also acknowledged the impressive showing in the quantity of commodities being exported including cocoa.

Appraising the position of Indian exports before and after the crisis, Sivakumar (2012) examined the impact of 2008 global financial crisis on Indian exports and imports using ordinary least square regression argued, that Indian economy though integrated into international markets by virtues of globalization and liberalization entrenched in 1991 which opened up its economic space, the external shock to world demand affected her exports, though short live.

On the other side of the divide, however, Bai (2012) employing extended version of the gravity model, argued that the global financial crisis impacted negatively on Chinese's exports. According to Bai (2012), China depends heavily on exports which account for more than 58% of her GDP. The study argued that China being an export oriented economy with diverse linkages and interconnectedness with European and American markets but trade less with her neighboring countries of ASEAN region, there would have been no way that the Chinese economy could completely extricate herself from the blights and contagiousness of that financial upheaval.

The situation in Latin American and the Caribbean countries are no where better; the region also had its own share of decline in export trades, typically caused by lack of trade finances and fall in prices. The impact of the crisis on Latin American countries appears to be waning off gradually despite some earlier projections that given the proximity between this region and the crisis origin, the path toward recovery may linger for a while (UNCTAD, 2009). Brambila-Marcias, Masssa and Salois (2011) explored the impact of global crisis, trade finance and aid on export flows based on 83 developing countries from 1990 to 2010. Using mixed-effect gravity model, the study observed among others, that the Latin American economies, unlike the Asian situation, are largely supported by United States economic activities, as such the credit crunch in US drastically squeezed the size of finance available to Latin American exporters. To compound their vulnerabilities, evidence from recent study by Mohan and Watson (2013) captioned the impact of the global financial crisis on region, went further to reveal another startling fact. The paper reported that 85% of exports from Latin American and Caribbean countries like Mexico, Chile, Argentina, Bahamas, Trinidad and Tobago, Barbados and Brazil, are channeled into US markets. It is evident from the findings of Mohan and Watson (2013) and, Brambilla-Marcias, Massa and Salois (2011), that the consequences of the global financial crisis have far-reaching implications for the two sub-regions.

Sub-Sahara and indeed the Africa continent in spite of their weak integration, also suffered from the external shocks to global demand and commodity prices. Owoye (2011) in a study with the topic; the global economic and financial crisis: an overview of African countries provided a vivid account of how African countries were susceptible to external shocks arising from the financial debacle of 2007 to 2009. According to Owoye (2011) the region although weakly integrated into the complex global financial markets, the fall in global demand also weakened their real economic sector, and unavoidably spilled over into her financial system. The study further disclosed other indirect links through which the region became affected to include trade deficits, drop in foreign earnings, remittances, FDI, and other channels which we have already enumerated in the previous chapter.

In Sierra Leone, for example, Weeks (2009) examined the impact of global financial crisis on the economy of Sierra Leone, established the latter's vulnerability to the external shock in spite of her small size and share in global permutations. The method used in the study was to select a set of macroeconomic model with parameters derived from regression analysis, based on the following assumptions; constant price of petrol, trade deficit should not grow more than its share of GDP, no default by aid donor agencies and finally, government expenditure is financed by Sierra Leonia central bank. Unrealistic as these assumptions are, the study however, made far-reaching recommendations such as fiscal expansion and strict exchange rate management to boost commodity exports that Sierra Leone is known for. The study also revealed that all her commodity exports such as diamonds, dredger, bauxite and coffee were severely affected by the demand shock exception of cocoa, on account of both volumes exported and realized prices.

Insaidoo (2011) investigated the impact of the 2007/2009 Global Financial Crisis on Ghana's economy using secondary data collected from World Bank, IMF, Ghana Central Bank argued that the eras when Africa countries were immune from the carry-over effects of crises from industrial countries are gone. Ghana, the study emphasized is increasingly linked to international markets by dints of trade interdependence. The domino effects of 2007/2009 financial debacle, they noted, transverse through the fabrics of her real sector to the financial system, as evident by the credit crunch experienced in domestic banks, net portfolio investment outflows and diminishing indices of its stock exchange's market performance, all

lead credence to economic vulnerability. The result of their findings further showed that while remittances from overseas, current account balances, FDI, trades, interest rates, etc., deteriorated remarkably, cocoa and gold exports which accounts for about 68% of her entire export revenues, unlike other major commodity exports in the likes of crude oil, and timber the country is known for, were however, not affected, a fact later admitted in Ajakaiye, Fakiyesi and Oyinlola (2009).

Ajakaiye et al, (2009) explored the impact of the global financial crisis on the social services sector in Ghana and Nigeria, using several statistics from both countries, to underscore the unleashing-effects of the crisis on their capacity to implement programmes and policies that would address poverty in all its ramifications. In Nigeria, for instance, the study described as embarrassing the low indices of human development measured by average life expectancy, access to basic education and finally, purchasing power income, and it was most likely going worst, given the reductions in annual budgetary allocations to health, education and other social welfare related sectors since 2008. The paper concluded that the global financial crisis would widen the poverty gap in Nigeria if the much needed policy responses are not put in place. These findings provided a fulcrum through which other related studies like Amba (2011) and, Alege, Ojapinwa and Bello (2012) were hinged upon. According to Amba (2011), the shock has worsen an already precarious household welfare and poverty situations, and concluded that such drifts may likely continue into the years ahead.

Loto (2011) looked at the financial downturn on the performance of agricultural exports in Nigeria on quarterly basis. The paper adopted both descriptive and empirical analysis to confront qualitative quarterly data spanning from 2005 to 2008 on indices of agricultural production, averaged prices of Nigeria's agricultural export commodities, exchange and inflation rates respectively. The empirical findings which were drawn from OLS regression results showed that the performance of agricultural exports in Nigeria was impressive during the crisis.

Esu and Awara (2010) assessed the vulnerability of Nigeria's export promotion initiatives in the wake of the global economic crisis. The study was descriptive in nature, however employed relevant data stretching from 1970 to 2007 to justify the implications of 2007/2008 financial turmoil on Nigeria economy over-reliance on mono export product (crude oil), whose share of annual GDP is progressing at alarming rates. Nigeria with its vast dormant export potentials is yet to achieve the desired break-through in harnessing, promoting, or diversifying her export base despite the conspicuous presence of Nigeria Import-export bank, Nigerian Export Processing Zones, Nigeria Exports Promotion Council, whose activities, the paper insisted, have neither hit the ground running nor changed the fortunes of commodity exports, which otherwise would have been a buffer to cushion the negative impact of declining oil prices.

Alege et al, (2012) carried out an empirical investigation on impact of the global shocks on Nigeria in the context of the global financial crisis. The study was designed to test the nexus between Nigeria's economic performance and global shocks with particular reference to the 2007/2009 financial upheaval, using a-five variable Vector Auto Regressive (VAR) model to analyze data on GDP, FDI, inflation rates, … spanning from 1970 to 2010. The findings of the study based on the interpretations of Sim (1980)'s Impulse Response Function (IRF) procedure of the VAR model, identified the financial system, trades, remittances and capital flows as vital links through which the global crisis hit the Nigerian economy.

Akingunola and Sangosanya (2011) studied the global financial crisis and industrial sector performance in Nigeria. The method adopted in the study was structural stability regression models using quarterly data on industrial activities from 2005 to 2008, to evaluate the performance of the industrial sector before and during the crisis. The results from the regression analyses showed that there were structural differences in the performance of the sector before and after the crisis. When these results were however, subjected to the chow break-point statistic to ascertain the significance difference of the structural breaks, the test failed to reject the null hypothesis, implying that the crisis did not have significant impact on the performance of the industrial sector in Nigeria. The likely importance of this revelation is that the industrial activities in the country have performed abysmally low over time, to command any remarkable impact even within the confine of our borders; it suffices to mention export exposures.

Theoretical Framework

The underpinning theory employed in this study stemmed from the systemic financial fragility theory of a capitalist economy. Though several strands of the theory are evident in the early writings of Fisher (1933), Hicks (1946) and Kindleberger (1978), its modern microeconomic and analytical framework were however, proposed and popularized by Hyman Minsky, particularly the 1986 edition. Therefore, this study is anchored on Minsky (1986)'s theory financial fragility. Generally, the theory seeks to provide the linkage that exists between the phases of economic expansions (contractions) and fragility of financial markets. There are two prepositions contained in the theory. The first preposition is that capitalist economies are inherently unstable; the economy has financial regimes under which it is stable and financial regimes under which it is unstable. The second preposition is that capitalist economies, by reasons of profit seeking orientation of private investments, proceeds from stable financial relations after a prolonged period of prosperity to unstable ones, although there are intervening continuums between the two poles.

According to Minsky (1986), credits accumulation by private investments is the underlying mechanism through which financial crisis ensues. At the center of the theory lies three types of investment constructs namely; hedge, speculation and ponzi financing units. The period of time it takes such economies to remain in a particular regime or proceed from stable regimes to an unstable regimes, is to a large extent influenced by the compositions of these three units in the financial system. Where there are greater weights of speculations and fonzi financing units, the more readily their financial systems become fragile, the more they are prone to frequent financial crises. This is spontaneously transmitted to back the real economy. Hence, he argued that there is need for interventions by lender of last resort or government regulations.

DISCUSSION

Strategies for Achieving Stated Objectives

For the purpose of investigating the impact of the global financial crisis of 2007 to 2009 on cocoa exports in Nigeria, this study is designed in a manner that will provide a vivid picture of the position of cocoa exports in Nigeria before and after the crisis (the time frame adopted in this study as the effect of the crisis is raging on some economies).

This paper was designed to assess the impact of the 2007 to 2009 global financial crisis on cocoa exports in Nigeria. The researcher employed an ipso facto research design to analyse the secondary data collected to realize the objective of the study. To achieve this, our sample was divided into two different subsamples. The first subsample is the pre crisis period (from 2004 to 2008), while the other subsample is during and post crisis period (from 2009 to 2014). This

is with a view of comparing both eras to detect if there was any structural change between the two periods. Thereafter, we converted each series to their logarithmic transforms and subsequently, carried out a first order autoregressive difference. This we did in order to obtain more suitable or stationary series, devoid of unit root or serial correlation challenges. Structural regression models (specified below):

2004- 2011. $CP = \pi_0 + \pi_1(WP) + \pi_2(EXR) + \pi_3(INR) + \pi_4(LoN) + \varepsilon_t$
2004-2007. $CP = \delta_0 + \delta_1(WP) + \delta_2(EXR) + \delta_3(INR) + \delta_4(LoN) + \varepsilon_t$
2008-2014. $CP = \varphi_0 + \varphi_1(WP) + \varphi_2(EXP) + \varphi_3(INR) + \varphi_3(LoN) + \epsilon_t$
Where. $\varepsilon_t \sim N(0, \sigma_\varepsilon)$

CP = national cocoa production value,
WP = world cocoa prices,
EXR = Exchange rates,
INR = maximum interest rates and

LoN = the amount of ACGSFL Loans assessed by cocoa farmers within the period, while π_(0 …) π_4, δ_0…δ_(4,) φ_(0…) φ_4, are partial regression coefficients for each respective sample, which were used to establish the relationship between quarterly cocoa exports as the regressand and average world cocoa prices, exchange rate, interest rate, credits accessed by the cocoa exporters indicated by Agricultural Credit Guarantee Scheme Fund (ACGSF) as the regressors. The results of individual estimation are highlighted from table 1, 2 to 3 respectively. Furthermore, we applied a structural regression model to estimate the parameters of individual independent variables, and finally employed the Chow breakpoint lemma to detect if there is a significance difference between the structural breaks. This is shown in table 4.

Discussion on Theoretical Framework

The theory of financial fragility of capitalist economies is a masterpiece that has aroused renewed interests in assets bubbles because of the recent subprime mortgage bubble bursts and countless episodes of financial crises the world has experienced. Financial fragility theory is a watershed in all reckonings in as much as the nature and, of course, the general perceptions of many policy-makers, institutions, academicians and others, concerning the episode of 2007 to 2009 global financial crisis. It seeks to bridge the gap between financial markets with business cycle and aggregate demand.

The theory finds fulfillment in the recent global crises that emanated from the US financial market. During the long period that heralded the mortgage subprime loan crisis, the US economy enjoyed a relatively robust and tranquil financial system. US financial market went beyond their limits of credit ingenuities in pursuit of profit (Barnes, 2010). It was, however, a bewildering paradox that within the seeming escalating tides of prosperity and booms, there were sudden massive defaults by many of the investors in US to honour their obligations, culminating into a crisis of confidence heralding the collapse of the inter-bank lending market (Copper, 2008). This is truly a Minsky's moment.

The theory is not without criticisms. Some monetarists for example, argue that financial fragility dwells only on the role play by the credit in the economy; they are others who simply condemn its interventions and regulation postures. However, given the stark realities of an imminent collapse of major financial markets and other damaging economic consequences of

the crisis, but not for government interventions and massive bailouts, it is therefore, firmly concluded that in the light of the restoring-impact of bailout options, such criticisms did not merit any acknowledgement.

Observed Gap in Literature

The recent fall in the volume of exports on account of declining prices as a direct result of reduction in global aggregate demand, has no doubt taken a toll on many economies around the world. Many studies have linked it to the damaging consequences of the recent global financial crisis. While there are several studies analyzing the effects of the crisis on the real economy, the literature on the linkages between the former and exports is very thin. This is particularly true for Nigeria, where it is not clear in existing literatures; some of which are reviewed in section 2.2, to what extent the 2007 to 2009 global financial crisis are responsible for the sharp drop in exports. Many of the existing literature in Nigeria are centered on the impact of the crisis on the banking and capital markets, oil and gas, telecommunication, energy and manufacturing sectors, not much has been done on commodity exports, particularly cocoa export that contributes significantly to her export revenues after oil and gas. This is done to bridge the gap in literature.

DISCUSSION ON RESULTS

Table 5 provides a revealing picture of the movement in cocoa export and its corresponding market and policy variables. A brief glance at the figures in this table shows that there is a random shift in world prices and volume of cocoa exportation, although the swings in the market prices displayed, somewhat an upward trend from the first quarters of 2008 to the second quarters of 2014. The changes in price and value of export level are reported in figure 1, 2 and 3 respectively. Against all expectations cocoa price soared high in 2009 even when prices of other commodities were tumbling. The same upward drifting is also true for the other market driven variables such as interest rates and Dollar/Naira exchange ratio but at a disproportionately unit change. Such increases in world prices, however, did not translate to any appreciable or corresponding increased in export.

When the above regression models were fitted to the samples according to the periods indicated: before the crisis (2004 – 2007), post crisis (2008 - 2014), and pooled sample (2004 – 2014), the results of their individual estimations are presented in table 1, table 2 and table 3 respectively. A cursory look at each of the table statistics reveals that all the identified independent macroeconomic-variables, are statistically fitting although there were remarkable variations across the three samples. The Durbin-Watson test resoundingly rejects the presence of serial correlations as evidenced by values greater than 2 in all the samples. Apart from table 2 (pre crisis period) where the value of R2 is 28%, in table 3 (post crisis period) and Table 4 (pooled sample) the value of R2 are 68% and 58% respectively. This is perhaps, an indication that the substantial variations in the respondent (cocoa exportation) are fairly explained by the changes in the regressors listed in our maintained hypothesis of 1, 2 and 3. The resulting partial regression coefficients are also satisfactorily high.

These scenarios further support the validity of a stable and robust relationship between our respondent and explanatory variables that is in conformity with the dictates of priori expectations, even though some of them showed mixed signs, contrary to the restrictions imposed by economic theory. Their respective standard errors were, also, not too low. A situation seriously overlooked here as they do not in a way impinged on the focus of study.

In table 2 where the parameters of the pre crisis sample are estimated, the results show that each of the variables is adjudged statistically insignificant by virtue of the t-test statistic, just as the signs of all the coefficients except for ACGSF loans, were found contradicting. For instance, economic axiom holds that high interest and exchange rates exerts negative shocks to investments in production generally, but our results revealed otherwise. The negative coefficient of world prices, therefore, should be taken with a grain of salt as there are different interpretations of this manifestation. The F-test also failed to reject the proposition that variations in the dependent variable are due to chance. In sum it is concluded that there was no stable structural changes in cocoa exportation before the global financial crisis in question.

Similarly, the result of fitting the second maintained hypothesis to the sample spanning from 4th quarters, when the crisis began to impact on the Nigerian economy to 2014, is presented in table 2. Like its counterparts in the preceding table, the regressors' coefficients except ACGSF loans, are found to be statistically insignificant based on the t-test statistic. On the contrary, however, the coefficients for cocoa world price, interest rates and exchange rates are negative in value corresponding to the dictates of priori expectations of economic theory. Concerning the overall significance of the sample regression, the p-value of obtaining an F value of as much as 5.848 or greater is less than 1%, leading to the rejection of the immediate results of individual parameter test that was based on the t-test statistic, and conclude that cocoa export during and past the crisis period were affected by variations in world prices, ACGSF loans, exchange rates and interest rates respectively.

In like fashion, the results for estimating the pooled sample regression are presented in table 3. Although the same pattern of result is discernible in both table 1 and table 2, as well as in table 3, judging by the coefficients that are not significant. The three results differed, however, in magnitudes and signs of the coefficients. While interest rates and ACGSF loans in this case exert positive shocks on cocoa exportation, cocoa world price and exchange rates did same but in opposite direction. On account of the F-test statistic, the p-value of obtaining an F value of as much as 5.883 or greater is less than 1%, thus reasserting the claim that the variations in cocoa production is significantly captured by changes in exchange rates, interest rates, ACGSF loans and product's world prices during the period under review.

On the basis of the above thread of contradictions, it implies that the performance of cocoa exportation in Nigeria before, during and after the global financial crisis cannot be structurally decided by the import of the above results. The parameters of these regression models are not only conflicting in all the estimated samples but inconsistent as well. In instances such as this, Chow breakpoint lemma which has been used in several studies (Umaru and Zubairu, 2012; Akingunola et al, 2011) becomes handy, to examine whether there are significant differences in the estimated equations or not. And on the strength of the results in table 4, we cannot reject the hypothesis that there is no break in cocoa production as result of the global financial crisis. The three relationships did not differ significantly.

CONCLUSION

In this study, an assessment of the impact of the global financial crisis of 2007 to 2009 on cocoa export in Nigeria was undertaken. To achieve the objective of the study, an eleven-year time-frame, beginning from 2004 to 2014 was chosen to enable us compare the structural changes in cocoa export as a result of the impact of the crisis on our economy. It appears that the impact of the crisis on cocoa export in Nigeria as the case in some other cocoa producing countries like Ghana, Cameroon, Senegal, Cote d'Ivoire, Brazil and Indonesia was mild. Some of the studies

cited attributed this to the universal consumption of chocolates and other derivatives of cocoa beans which 80% of total world production is mainly from a small fringe in West African tropical rain forest belt.

RECOMMENDATIONS

All inhibitors to cocoa productions and export should be identified and done away forthwith.

Diversification of export markets and trade partnership especially with other fast growing economies such as China and India should be encouraged to mitigate the adverse effects of relying on solely on the American and EU economies for our export market.

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APPENDIX

Table 1: Estimated Results for Pre Crisis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.060238	0.098889	0.609152	0.5560
ACGSFLOAN	0.130222	0.142606	0.913157	0.3826
EXCHANGERATE	0.355435	12.06937	0.029449	0.9771
INTERESTRATES	5.661910	7.688189	0.736443	0.4784
WORLDPRICE	-2.253620	2.231849	-1.009755	0.3364

R-squared	0.482764	Mean dependent var	0.033114
Adjusted R-squared	-0.004131	S.D. dependent var	0.300056
S.E. of regression	0.300675	Akaike info criterion	0.695629
Sum squared resid	0.904056	Schwarz criterion	0.931646
Log likelihood	-0.217221	Hannan-Quinn criter.	0.693115
F-statistic	0.985602	Durbin-Watson stat	2.522725
Prob(F-statistic)	0.458159		

Computed by Author

Table 2: Estimated Results for Post Crisis Sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.045862	0.064226	0.714065	0.4901
ACGSFLOAN	0.265839	0.082874	3.207726	0.0083
EXCHANGERATE	-1.452777	2.987114	-0.486348	0.6363
INTERESTRATES	-1.162740	4.242443	-0.274073	0.7891
WORLDPRICE	-2.069484	1.206709	-1.714982	0.1143

R-squared	0.680144	Mean dependent var	0.003829
Adjusted R-squared	0.563833	S.D. dependent var	0.342917
S.E. of regression	0.226473	Akaike info criterion	0.117922
Sum squared resid	0.564189	Schwarz criterion	0.359356
Log likelihood	4.056625	Hannan-Quinn criter.	0.130285
F-statistic	5.847628	Durbin-Watson stat	2.408317
Prob(F-statistic)	0.008976		

Table 3: Estimated Results for Pooled Sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.029218	0.045561	0.641287	0.5269
EXCHANGERATE	-1.788267	2.939685	-0.608319	0.5483
INTERESTRATES	0.144210	3.351911	0.043023	0.9660
WORLDPRICE	-2.101833	1.051141	-1.999573	0.0561
ACGSFLOAN	0.229023	0.068316	3.352427	0.0025

R-squared	0.475090	Mean dependent var	0.017999
Adjusted R-squared	0.394335	S.D. dependent var	0.317857
S.E. of regression	0.247371	Akaike info criterion	0.190833
Sum squared resid	1.590999	Schwarz criterion	0.422121
Log likelihood	2.042094	Hannan-Quinn criter.	0.266227
F-statistic	5.883087	Durbin-Watson stat	2.230550
Prob(F-statistic)	0.001648		

Computed by author

Chow Breakpoint Test: 16
Null Hypothesis: No breaks at specified breakpoints

F-statistic	0.351146	Prob. F(5,21)	0.8757
Log likelihood ratio	2.489133	Prob. Chi-Square(5)	0.7781
Wald Statistic	1.755732	Prob. Chi-Square(5)	0.8818

Table 4: Structural Stability Test

Table 5: Cocoa and Market/Policy Variables

YEAR	EXPORT TON ('000)	WORLDPRICE ($' 000)/TON	EXCHANGERATE (₦)	INTEREST RATES (Per cent)	ACGSFLOAN (₦'000)
2004 (Q1)	25.64	1.53	135.25	21.1	778
2004 (Q2)	46.24	1.41	132.13	20.7	642
2004 (Q3)	63.03	1.67	132.34	20.2	480
2004 (Q4)	86.17	1.53	132.37	20.4	520
2005 (Q1)	28.8	1.67	132.34	20	3852
2005 (Q2)	45.6	1.53	132.34	19.2	4543
2005 (Q3)	68.4	1.49	132.24	19.12	2797
2005 (Q4)	88.26	1.45	128.34	19.51	5590
2006 (Q1)	25.8	1.55	129.36	18.09	1000
2006 (Q2)	47.6	1.57	127.91	18.18	13315
2006 (Q3)	60.47	1.61	127.81	18.54	2820
2006 (Q4)	93.24	1.61	127.77	18.69	1330
2007 (Q1)	23.66	1.81	127.13	18.72	200
2007 (Q2)	44.28	2.15	126.52	18.16	580
2007 (Q3)	61.82	1.99	126.24	18.31	3730
2007 (Q4)	80.47	1.87	118.82	18.22	15830
2008 (Q1)	23.54	2.46	116.86	18.3	5750
2008 (Q2)	44.24	2.78	116.71	18.67	15400
2008 (Q3)	65.51	2.81	116.65	18.42	17980
2008 (Q4)	83.49	2.3	117.36	20.74	23550
2009 (Q1)	22.16	2.61	144.16	22.41	1300
2009 (Q2)	45.72	2.6	146.33	22.52	25600
2009 (Q3)	70.47	2.97	146.34	23.18	19175
2009 (Q4)	83.07	3.43	149.43	22.63	35715
2010 (Q1)	25.34	3.29	147.81	23.52	250
2010 (Q2)	47.18	3.2	148.18	22.18	4526
2010 (Q3)	74.68	3.06	148.42	22.23	3280
2010 (Q4)	98.61	2.96	148.34	21.84	3500
2011 (Q1)	24.42	3.34	149.62	21.88	1600
2011 (Q2)	47.84	3.07	152.29	22.08	1250
2011 (Q3)	75.25	3.03	151.58	22.22	2585
2011 (Q4)	92.66	2.47	153.51	23.28	4830
2012 (Q1)	50.37	2.36	158.33	23.52	0
2012 (Q2)	52.09	2.27	157.38	23.72	5000
2012 (Q3)	53.21	2.62	157.41	23.86	8449
2012 (Q4)	55.17	2.43	157.25	24.97	108290
2013 (Q1)	57.10	2.15	157.01	24.54	5750
2013 (Q2)	60.91	2.23	157.24	24.56	5250
2013 (Q3)	61.27	2.62	157.26	24.73	6000
2013 (Q4)	62.78	2.83	157.31	24.94	8563
2014 (Q1)	61.06	3.04	157.31	25.72	4530
2014 (Q2)	60.88	3.17	157.31	25.83	8360
2014 (Q3)	62.00	3.22	159.32	25.64	13090
2014 (Q4)	63.13	2.95	169.46	25.80	191804

Sources – FAOSTAT, ICCO, CBN, NBS

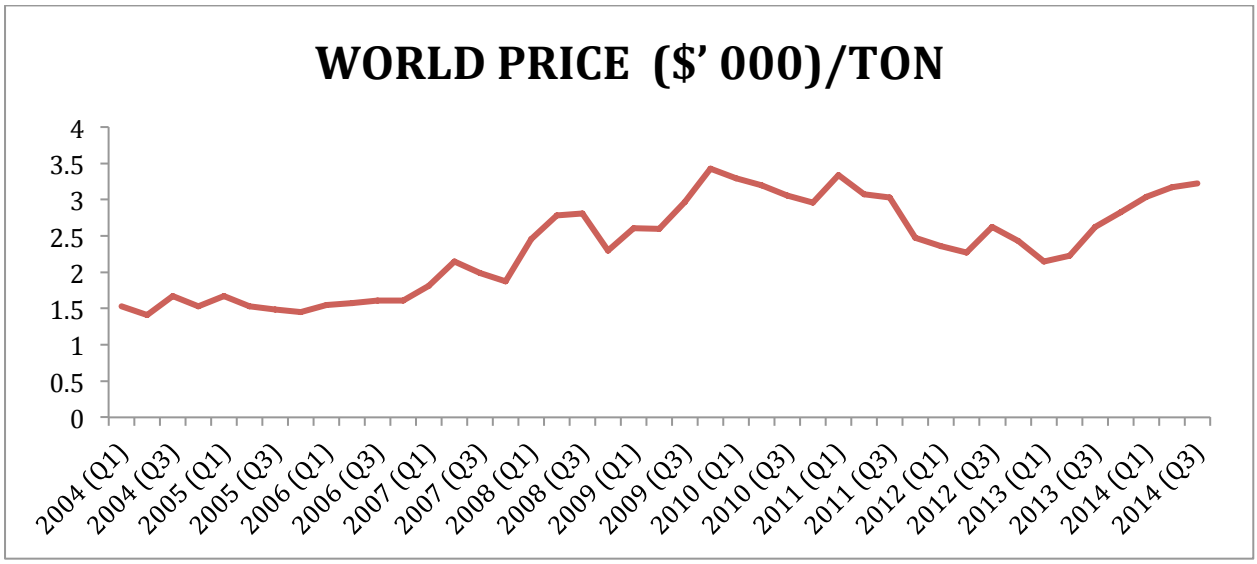

Figure 1

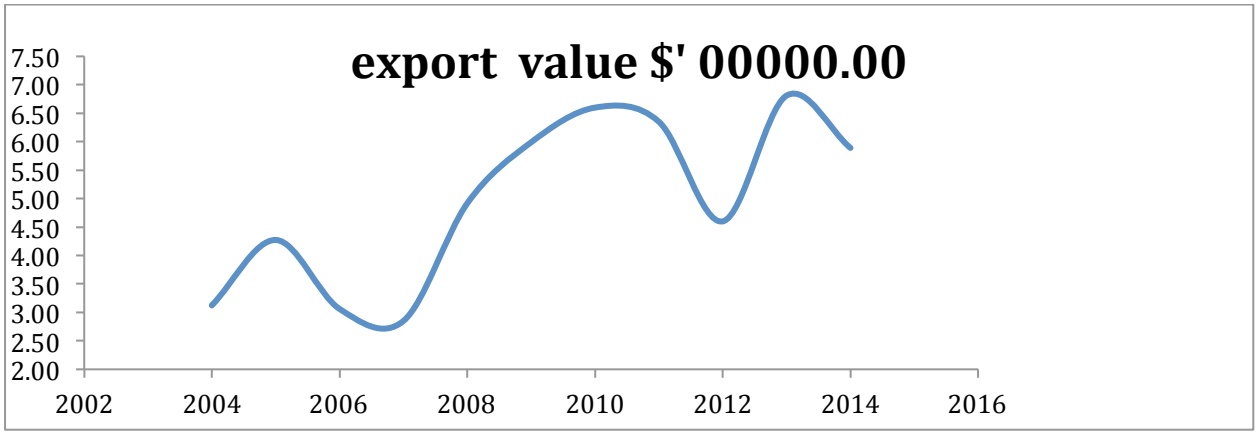

Figure 2

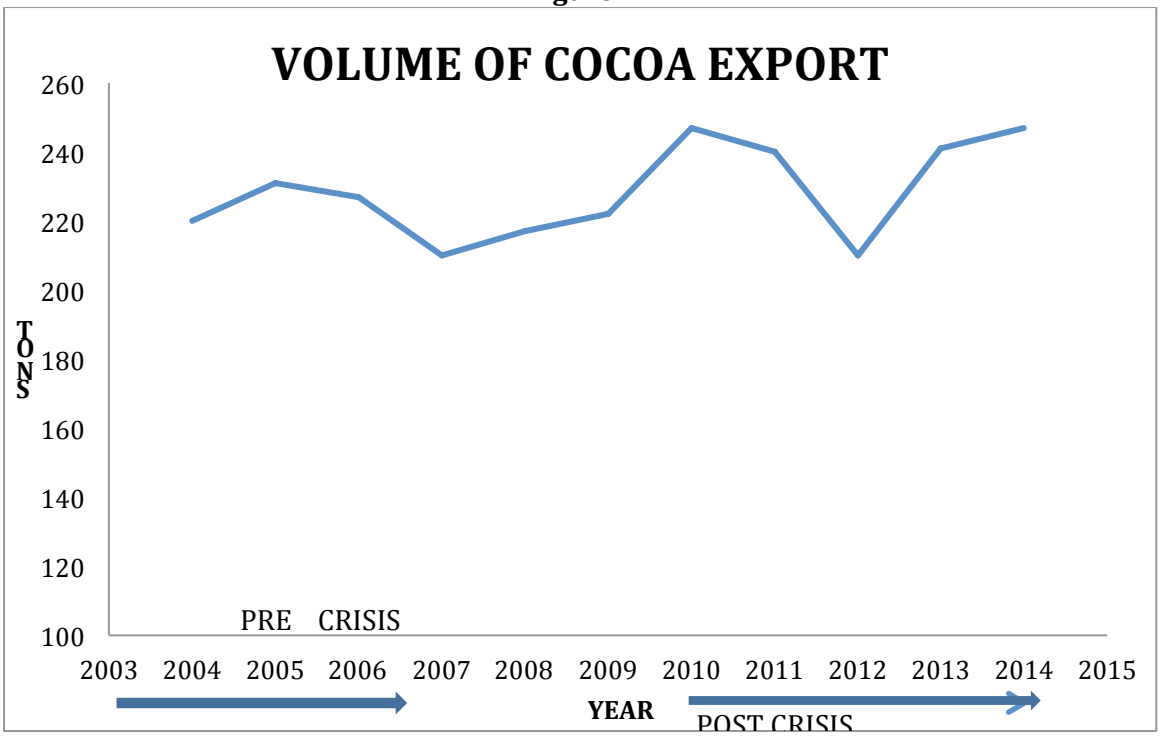

Figure 3