

# The Impact of Consumer Confidence and Expectation on Consumption in Nigeria: Evidence from Panel Data

Oduh, Moses Onyema<sup>1\*</sup> Oduh, Maryann Ogechi<sup>2</sup> Ekeocha, Patterson Chukwuemeka<sup>3</sup>

1. Debt Management Office, The Presidency, Abuja

2. Department of Economics, University of Nigeria, Nsukka

3. National Institute for Legislative Studies, National Assembly, Abuja

\* E-mail of the corresponding author: [oduhmoses@yahoo.com](mailto:oduhmoses@yahoo.com); [oduhmoses@gmail.com](mailto:oduhmoses@gmail.com)

## Abstract

The Nigerian economy witnessed a significant growth turning point from the early 2000s after it returned to democratic rule in 1997. But the strong economic growth posted by the country has not served to substantially reduce poverty, inequality, unemployment, exchange rate, inflation and interest rate spread. Consequently, there is a damping effect on consumer confidence, hence low spending. Fixed effect panel model was used to underscore the importance of consumer confidence and expectations in household spending, using data from the CBN survey of consumer expectation across the six geopolitical zones from 2009-2011. The result shows that consumer confidence, current income, income expectation, expected change in the prices of food and durables, and exchange rate are the determinants of consumption in Nigeria. Surprisingly, the short run MPC is substantially larger than the long run MPC, indicative of low savings, perhaps resulting from loss of confidence in interest rate among the households.

**Keywords:** Nigeria, consumer confidence, expectation, macroeconomic variables, household spending, panel data

## 1. Introduction

After many years of economic stagnation arising from poor governance and inconsistent economic policies that characterized more than 34 years of military rule, the Nigerian economy witnessed a significant growth turning point from the early 2000s after it returned to democratic rule in 1997. The positive economic outlook has been driven by better macroeconomic and fiscal management of increased oil earnings coupled with the highly improved performance of the non-oil sector, particularly agriculture, telecommunications, financial intermediation and wholesale/retail trade. The growth story has changed as evidenced by the fact that real GDP growth surpassed 6% in most of the years during 2001-2012.

Increase in the daily output of crude oil, favourable commodity prices, inflows of capital in response to the removal of restrictions on repatriation and high domestic interest rates, as well as stable exchange rates continue to drive the country's foreign exchange reserves to an impressive US\$36.66 billion at the end-April 2012, representing an increase of US\$4.02 billion or 12.32 per cent above the level of US\$32.64 billion at end-December 2011. Reserves increase to US\$38.72 billion as at 17th May 2012, representing 18.63 per cent increase over the level in December 2011 (CBN, 2012a). As part of its fiscal re-strategizing, essentially to maintain strict fiscal sustainability and prudence in the management of proceeds from petroleum resources, government created the Sovereign Wealth Fund, (SWF) otherwise called the Nigeria Sovereign Investment Authority (NSIA) in 2011. The fund has three objectives, increasing national saving, infrastructural development, and fiscal stabilization. This was consequently followed by the removal of fuel subsidy in January 2012 which attracted swift opposition from Nigerians. Government later removed about 70% of the fuel subsidy with petrol being sold at ₦97 per litre. How these moves have captured the confidence of the foremost economic agents – consumers, crystallizes with time and subject to empirical examination.

In the agricultural sector which has been the major driver of the economy, the policy thrusts aims at the attainment of self-sustaining growth in all the sub-sectors of agriculture and the structural transformation necessary for the overall socio-economic development of the country as well as the improvement in the quality

of life of Nigerians. This is with the intension of shifting attention away from the oil sector to less volatile sources of revenue and establishing the basis for non-oil driven economy.

Following the liberalization of telecoms sector in 2001, it has become a major catalyst in poverty reduction through its impact on employment and income, leading to improvements in the socioeconomic development of Nigeria (Urama & Oduh, 2012). Tele-density figure as at the year 2001 was put at about 0.73 lines per 100 inhabitants, while the first quarter of 2012 estimate indicated that Nigeria had recorded a tele-density of about 70.8 lines per 100 inhabitants with an active subscriber base of about 95.9 million lines (NCC, 2012). Telecom has become the first means of access for many Nigerians irrespective of where they live and what they do. It complements agriculture as the major driver of the economy and leading Nigeria's quest for diversification to non-oil sector. As at first quarter of 2012, telecoms sector is reported as the fastest growing sector and the main driver of the economy (NBS, 2012a).

The manufacturing sector which had been in the state of comatose since the late 1970s received a renew attention with a focus on the power sector and the micro, small and medium enterprise (MSMEs). The supportive business environment for SMEs by the CBN and federal government, though not driving the SMEs to a desired growth, promises to be a leeway to rejuvenating the near collapsed manufacturing sector. The most recent initiative to grow the sector by the CBN are the establishment of N42.02 billion consolidated bank fund to Small and Medium Scale Enterprises Guarantee Scheme (SMEGS) to provide credit to SMEs and establishment of Commercial Agriculture Scheme (CACs) in collaboration with the Federal Ministry of Agriculture to develop agriculture value chain in Nigeria. As at June 30, 2009, about N28.4 billion out of the amount set aside has been invested in the sector (CBN, 2009).

On the back of these growth improvements, Nigeria's economic outlook in the years to come is now subject of on-going optimism within the national and global economic and investment community. Several key demographic, economic and political indicators point to a country that is set to become a major global economic and investment hub over the next decades. With present population estimated at 163 million and 258 million by 2030, an economic size (Gross Domestic Product) close to \$250 billion and over 2.4 million barrels of crude oil exports per day, Nigeria is one of the largest single geo-economic entities and constitutes a huge and expanding market for domestic production and imported goods and services. The economic prospects are further brightened by the current wave of urbanization that is projected to push the urban population to about 60% of the national total by 2025 as well as the widely acknowledged 'enterprising spirit' of the average Nigerian.

### *1.1 Statement of research problem*

The government of Nigeria faces an enormous challenge of non-distributive growth as the strong economic growth the country has experienced in recent years has not served to substantially improve household welfare. What the economy exhibits is paradox of rising poverty incidence in the face of impressive economic growth (Holmes, Akinrimisi, Morgan, & Buck, 2011) and (CBN, 2012a). The Poverty report from the (NBS, 2011) shows that about 112.6 million Nigerians out of the estimated population of 163 million live in relative poverty, a staggering 69% which is 15% higher than the 2004 relative poverty. In addition, income inequality rose from 0.43 in 2004 to 0.45 in 2010, indicating greater income inequality. This is not the end of the story as the 2011 preliminary estimate suggests that poverty may have risen slightly to 71.5%. Instructively, all the four methods, relative poverty, subjective poverty, absolute poverty, and dollar-per-day poverty used in measuring poverty by the NBS pointed to a disconnect between the country's posted growth rate of 7.8% and poverty reduction.

Because of the challenges of achieving pro-poor growth, some countries now focus on private consumption as a supplementary/alternative approach to drive growth. Study by (Eng & Ping, 2004) reported that supplementary, if not alternative, economic strategy often being suggested is to increase Singapore's reliance on domestic demand – particularly private consumption – as a supporting engine of growth. The view of using private demand to drive growth was also reported in (Alias, 2010) that private consumption needs to pick up and contribute to at least half of GDP of Malaysia. Countries like Belarus, Indonesia, and Germany are also using the same strategy to redirect their future growth path (Astrove, 2005), (Bank Sentral Republik Indonesia, 2009) and (Katharina Jungen & David Nowakowski, 2012).

For Nigeria, part of the problems inhibiting the achievement a pro-poor growth results from inconsistent policies and faulty choice of policy instrument that directly impact on the final consumers, hence the increase in poverty and declining private consumption that engulfed the economy. Given this, it is clear that a lot would have

happened to both the objective (economy structure) and the subjective (consumer confidence and expectation) economy which affected the realization of all-inclusive growth. Figure 1 and 2 (Appendix A) are clear indications of falling consumer confidence and spending in the country. Consumer confidence started picking up from the third quarter of 2010, but was not enough to boost spending, as the real growth rate of consumer spending persistently declines (figure 2). The study by (Brockie, 1953) showed that when the economy is undergoing great economic stress consumption expenditures would probably be affected by uncertain “expectational vistas”. When it does, it creates problems to both fiscal and monetary policy management. Therefore, to redirect growth from the perspective of effective demand, there is need to identify factors that influence private consumption. The outcome of such result can point or help identify macroeconomic policy instrument that can stimulate consumption in the economy.

### *1.2 Objective of the study*

Since the effort to achieve all-inclusive growth in the past has been elusive, the study addresses bottom-up approach to growth - achieving growth by stimulating private consumption. To realize this, the study focuses on comprehending the subjective economic structure that drives consumer behaviour in the economy. Over the years effort has been concentrated on understanding the objective factors – traditional macroeconomic variables while ignoring the psychology which drives the willingness to pay for goods and services – consumer confidence and sentiments. That is the sentiment in favour or against an increase/decrease in the amount to be expended on such goods. The ability and willingness that individual possess might contain additional information in determination of consumer attitudes – consumer confidence and expectation about the economy. And how optimistically or pessimistically consumers feel about the economy has a lot about the perceived expected utility and effective demand in the economy (Çelik, Aslanoglu, & Deniz, 2010). According to (Bank Sentral Republik Indonesia, 2010), rising levels of consumer confidence and public purchasing power were key factors in buoyant consumption and growth during 2010 in Indonesia. In response, investment growth gathered momentum in line with improving business tendencies and robust export demand. In essence, it is important to underscore consumer confidence as well as the macroeconomic variables that have bearing with private consumption.

The study focuses on consumer confidence and expectations that predict private consumption. To achieve this, it answers such questions as: what is the relationship between consumer confidence and expectation, and planned spending? The objective of this study therefore, is to ascertain the impact of consumer confidence and expectation on household spending, given regional variations in Nigeria.

## **2. Literature review**

The importance of consumer confidence was implicitly defined in the contribution of (Bernoulli, 1738) to the ideas of consumer utility. He emphasized the fact that willingness and readiness are dependent on value of utility and confidence the consumer placed on such commodities. In addition, in (Keynes, 1936) consumer confidence was formally linked to what he called animal spirit. The term Animal spirit itself is drawn from the Latin word “spiritus animals” which may be interpreted as the spirit (or fluid) that drives human thought, feeling, and action (Pasquinelli, 2008). It describes how human emotions drive consumer and business confidence and how people’s confidence about certain outcomes motivates them into taking positive actions.

Since the publication of the Keynes work on animal spirit, various studies have attempted to ascertain the relationship between consumer sentiment and the economy. The opinion is that consumer confidence is either a determining factor of aggregate demand or simply an economic indicator. For example, (Shiller R.J, 2009) refers to it as the sense of trust we have in each other, our sense of fairness in economic dealings, and our sense of the extent of corruption and bad faith. In (Çelik, Aslanoglu, & Deniz, 2010) it is described as an economic indicator which derives its information content both from the past and current economic outlook. The second argument is that consumer confidence has little or nothing to do with current economic outcome, but is very much relevant as an economic indicator to understand the future path of the economy. That is, it shows the direction an economy is likely heading through its impact on consumption and savings.

But irrespectively of whether it affects aggregate demand or just an economic indicator, there is the realization that it is an import economic indicator that could influence the direction of an economy. The economic

implications of consumer confidence were discussed in (Ferguson, 2011), (Mendonça, 2009), (Mincey, 2006), (Fazel, 2005), (Garrett, Hernández-Murillo, & Owyang, 2004), (Ludvigson, 2004), (Bram & Ludvigson, 1998), and (Evans & Honkapohja, 2001). They brought out clear evidences to suggest that consumer confidence expresses the degree of optimism that consumers express for the economy which determines their consumption behaviour, especially decision on how much to save and spend. The relationship between consumer confidence and the economy is such that a change in consumer confidence facilitates changes in aggregate expenditure, through its effects on private consumption expenditure (AmosWEB, 2012). Other writers like (Çelik, Aslanoglu, & Deniz, 2010), follow the argument implicitly or explicitly that ability, readiness, and willingness are the three features that characterize effective demand in psychological economics. The emphasis is that ability is determined by objective factors, while willingness is defined by subjective factors such as confidence and expectation; they jointly determine consumer behaviour.

## *2.1 Consumption pattern in Nigeria*

### *2.1.1 Private consumption expenditure*

Following the traditional Keynesian open economy aggregate demand, there are four components of aggregate expenditure published by National Bureau of Statistics (NBS). These are private consumption, gross capital formation, general government purchase, export, and import.

Private consumption constitutes an average of 68% of the total consumption expenditure; with a larger proportion spent on food. Analysis of the NBS harmonized NLSS data 2004 and 2009 shows that more than 65% of household expenditure is spent on food. The spending of larger proportion of household income on food in most cases is an indication of the level poverty. In 1985 the non-durables weight of consumer price index was about 69%. It reduced by approximately 8% in 1996 and 5% in 2004 from 64% in 1996. This changing structure has a bearing on the switches of expenditure patterns from food to non-food items and could be a reflection of the rising profile of the non-poor/ the median class in Nigeria (NBS, 2007). This trend was however, reversed in 2011, as the non-food items accounts for about 35.3% of the CPI weighted index.

One striking feature that calls for attention is the persistent declining trend in private consumption since 1981. Data from (CBN, 2010a) indicates that private consumption constitutes about 68.2% of Nigeria's aggregate expenditure, yet it has remained unimpressive, declining from -5.7% in 1981 to about -36.6% in 2010. Figure 2 (Appendix A) shows persistent negative trend in real growth rate of private consumption expenditure in Nigeria.

### *2.1.2 Regional demand pattern*

Nigeria is divided into two major regions, North and South. These are further delineated into six geopolitical zones, three from each of the zones. Northern region comprises of North-central (Benue, Kogi, Kwara, Nasarawa, Niger, Plateau, and FCT-Abuja), North-east (Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe), and North-west (Kaduna, Katsina, Kano, Kebbi, Sokoto, Jigawa, and Zamfara); while the Southern region comprises, South-east (Abia, Anambra, Ebonyi, Enugu, and Imo), South-south (Bayelsa, Delta, Edo, Cross River, Rivers, and Akwa Ibom), and South-west (Lagos, Ondo, Oyo, Ogun, Osun, and Ekiti).

The demand dynamics of societies is sometimes linked to some demographic factors, especially household size. The theoretical underpinning is that the more the household size the more likely that family will consume more. The corollary to it is that poor families spend more on non-durables because they tend to have more families. Nigeria however, presents a particular case that runs against this theoretical and intuitive reasoning, because affluence in Nigeria is usually associated with high dependants and obligations; thus level of income is expected to positively correlate with family size. Evidence from NBS statistics shows that the average family size of those above the relative poverty line is more than five, while that of those below the relative poverty line is about three.

In terms of expenditure pattern, the North-west expends more on food than the other regions, accounting for about 25.1% of the total food expenditure in all the six zones. Incidentally this is the poorest region in the country with about 77.7% of relative poverty. The South-west accounts for about 22.7% of the total food expenditure, while south-west accounts for about 12.2% of total expenditure on food, which is the lowest in the country. Other regions accounts for 12% each. Overall, the South-west accounts for about 25.3% of the total

expenditure (food and non-food) in the economy, while the North-west accounts for about 22.3% of the total expenditure. South-south and North-central account for 14.8% and 14.6% respectively, while South-east and North-east account for 12% and 11% respectively (NBS, 2012b).

The foregoing suggests that, because demand pattern differs, how the consumer confidence is affected across the regions also may likely affect their demand pattern and how they respond to changes in macroeconomic policies that drive this demand. In summary, the expenditure/demand pattern will likely reflect how consumers across the regions reacts to policy changes which affects their taste, hence reactions and agitation to antagonize such policies so as to attract attention.

### 3. Methodology

The methodology is panel fixed effect model pooled from the six geopolitical zones in Nigeria, namely North-central, North-east, North-west, South-east, South-south, and South-west. The reason for this regional disaggregation is to account for variations in regional demand pattern in different parts of the country. The fixed effect model assumes a constant slope, but different intercepts across the zones. That is the model assumes no significant country differences (variables are homogenous), but might have autocorrelation owing to time-lagged temporary effects resulting from group-specific characteristics, such as religion, occupational distribution across the zones, differences in political acceptability of policy shifts, and time lag of policy effect on the zones. For example the North is predominantly into agriculture, South-west are industrialists and mainly in paid employment, while the South-east is predominantly into commercial activities. In terms of religion, the north is predominantly Moslems, while the south is predominantly Christians. These variations are expected to affect both the size of household and demand pattern.

The model is estimated with Feasible Generalize Least Square (FGLS) method with cross-section weights (PCSE) standard errors & covariance (without leading degree of freedom correction term) since we assume the presence of cross-section heteroskeasticity of the dependent variable. In (Davidson & MacKinnon, 1993) it is very rare to have errors that are independent and homoscedastic in a cross-section model so as to rely on OLS for estimation.

#### 3.1 Model Specification

Theoretically, variety of macroeconomic variables affect consumer planned expenditure, including prices of durables and non-durables, expectations of future income and employment, the current level and expectations of future interest rate movements, trends in unemployment and changes in perceived job security, money supply and monetary policy rate, anticipated changes in government taxation and subsidy, changes in household wealth including movements in house and share prices. The choice of variables in the current study is guided accordingly, but paying attention to the country's peculiarity as well as data limitation.

$$y_{it} = \alpha_i + \beta x_{it} + \mu_{it} \quad (1)$$

where  $i = 1, 2, \dots, 6$  cross-section units of the six geopolitical zones in Nigeria and periods  $t = 2009$  to  $2011$ , while  $\mu_{it}$  is the one-way error term. The dependent variable (CBI) is the consumer buying intention index (planned expenditure) of all the cross-section members. The explanatory variables ( $x$ ) contains sets of cross-section coefficient specific such as consumer confidence index (CCI), current income ( $Y_0$ ), expected income in the first quarter ( $Y_1$ ), consumer price index of durables (CPI<sub>d</sub>), consumer price index of food (CPI<sub>f</sub>), savings/deposit rate (SAV), and nominal official exchange rate (NERo).

The error component disturbances is decomposed into individual region fixed effects ( $\mu_i$ ), and other disturbances term ( $v_{it}$ ). This is as specified in case (2).

$$y_{it} = \alpha_i + v_{it} \quad (2)$$

We also account for variations across the regions by introducing pool fixed effects. This is introduced by using different intercepts estimated for each pool member. The fixed effect is as defined in case 3.

$$\alpha_{it} = \alpha_{it-1} \quad (3)$$

Finally we account for lags in these variables by introducing an Autoregressive (AR1) variable to show how previous changes in macroeconomic variables and confidence influence current behaviour. With this adjustment, the relationship between the two sets of variables in case (1) changes to case 4.

$$y_{it} = \alpha_{it} + \beta_1 x_{it} + AR[1] + \varepsilon_{it} \quad (4)$$

### 3.2 Brief description of variables used in the model

Planned expenditure is the index of the amount of consumer expenditure in the next 12 months; consumer confidence index describes a composite index of household outlook in the next 12 months; price of food and durables are the contributions of food items and durables to changes in prices in the next 12 months, current income and income expectation are the indexes of household current and expected income in the next quarter; savings is the index of disposable income that household expects to go to savings,; while exchange rates is the index of expected movement in exchange rate.

### 3.3 Identification of variables and data handling

For cross identification of the variables in the pool, the following identifiers across the regions are used:

\_NC (North-central identifier); \_NE (North-east identifier); \_NW (North-west identifier); \_SE (South-east identifier); \_SS (South-south identifier); and \_SW (South-west identifier).

The data is monthly data spanning 2009M4 to 2011M9. That is April, 2009 to September, 2011. The reason for the choice of these periods, most significantly is that survey on consumer confidence by the Central Bank of Nigeria started in 2009. All the data are from the CBN statistical bulletin 2010 and quarterly economic reports various issues, 2010 and 2011.

## 4. Analysis of results

Table 1 (Appendix B) shows that about 90% (weighted cross-section), and 89% (Unweighted cross-section) of the variation in household planned expenditure is explained by changes in consumer confidence, income, general price level, savings, and nominal official exchange rate. The Durbin-Watson statistics is approximately 1.98 (weighted) and 2.0 (unweighted), showing absence of spurious regression. Table 2 (Appendix B) shows test for fixed effects of the regression result in table 1 (Appendix B). The test rejected absence of fixed effect across the regions, while table 3 (Appendix B) tested savings for redundancy. The hypothesis was equally rejected, showing that though savings does not significantly influence planned spending, but jointly with other variables determines household spending.

### 4.1 consumer confidence

A change in the consumer confidence, by changing consumption expenditures, induces changes in aggregate expenditures. It stands that a boost in consumer confidence increases aggregate expenditures and causes an upward shift of the aggregate expenditures, while a drop in consumer's optimism decreases aggregate expenditures and causes a downward shift of the aggregate expenditures. The result in table 1 (Appendix B) shows that there is a positive relationship between consumer confidence and their buying intention. It is evident from the result that a 10% increase in consumers' optimism increases their planned purchases by about 1.4%.

Given this relationship, it will be insightful to examine closely the determinants of consumer confidence because it raises a fundamental question about the business cycle and the attempts by the CBN to stabilize inflation. Moreover, apart from the largest of the four expenditure categories; it is relatively stable compared to the volatile investment; nonetheless any small changes in consumer spending have the potentials to trigger business-cycle instability. And this small change in consumption can result from changes in consumer confidence and outlook as revealed by the regression results.

#### *4.2 Current and expected income*

Because of the strategic role given to income in pushing aggregate demand to a desired growth, especially in consumption theory, two levels of income was used in the regression: current actual income, and expected income, analogous to the long run.

Theoretically, if people expect that their income will rise, then their consumption behaviour will be affected. This is also confirmed in the regression result in table 1 (Appendix B) where expectation about rise in income has the potentials of pushing consumption in the positive direction, but the long run marginal propensity to consume (MPC) is substantially lower than the short run MPC. This is fascinating and revealing too - that the impact of income on planned expenditure in Nigeria fades away as one moves from the short to long run. The two levels of income significantly determine consumption expenditure, but the short run (current income) has more influence on expenditure than the medium and long run. The result shows that if current income increases by 10% consumption will increase by 1.6%, while it will increase by 0.7% in the long run.

The foregoing might not be unconnected with income variability and interest rate. Although this requires further probe, but permanent income hypothesis suggests that income variability and interest rate among other things determine the magnitude of MPC. On interest rate, people will be willing to save a higher proportion of their income as interest rate rises – supposedly, if they have savings culture. The relatively large size of the short run MPC, instructively explains or reinforces the fact that interest rate is too low as to induce consumers to postpone current consumption, hence the non-significance of savings as observed in table 1 (Appendix A). Thus, it could be a reflection of loss in consumer confidence in interest rate as a transmission mechanism.

#### *4.3 General Price level*

Price level is disaggregated into prices of food and non-food items (durables). Expectedly, increases in both prices have dampening effect on consumption, but consumers are more concerned with increase in the prices of food items than the prices of durables- with reference to the individual variable statistical relevance. A 10% increase in the price of food items reduces consumption by approximately 0.8%, while the same change in durable reduces consumption by 1.6%.

The concern about food prices is genuine, given the extent of poverty in the country. The more developed an economy becomes, the less it spends on food and the more it spends on non-food items. Consequently, consumption pattern in Nigeria, like most developing countries, is skewed towards food which accounts for a higher proportion of the total expenditure. According to (NBS, 2012b) about N23.3 trillion was spent on food consumption in the periods 2009/2010 amounting to 64.7% of household total expenditure in the same period, while 35.3% was spend on non-food items.

#### *4.4 Savings*

Result of the estimate indicates that planned spending is not significantly affected by planned savings. This result is not surprising given the fact that household savings in Nigeria is low, arising more significantly from low deposit rates offered by the Deposit Money Banks (DMBs), and partly as a result of poor savings habit. Evidence of low interest rate can be seen from the rising interest rate spread – difference between lending and deposit rate. As at April 2012, the average maximum and prime lending rates are 23.31% and 16.9% respectively, while deposit rate stood at about 1.72% (CBN, 2012b). Apparently, interest rate in Nigeria has proven to be weak in linking monetary policy to the real sector necessitating the use of quantitative easing, in addition to policy rate to drive investment and growth.

#### *4.5 Exchange rate*

There are two exchange rates markets operational in Nigeria: official and parallel exchange rate markets. Official exchange rate mirrors what happens in the parallel market. The result shows that exchange rate depreciation negatively impacts on consumption. Depreciation of exchange rate by 10% decreases consumption by 3.9%. This is also expected since the economy is import dependent, spending an average of 43% of the total import on finished goods One could therefore imagine the effects the 3.2% devaluation of official exchange rate in 2011 by the CBN would have had on the general prices level- perhaps accounted for part of the reasons for the 12.9% increase in inflation year-on-year in April, 2012 (NBS, 2012c).

## 5. Conclusion and Policy implication

### 5.1 Conclusion

The study investigated the macroeconomic determinants of private consumption, laying emphasis on consumer confidence and expectation by accounting for variations across the six geopolitical zones in Nigeria. The identified macroeconomic variables, in addition to consumer confidence include current and expected income, prices of food and durables, nominal official exchange rate, and deposit rate. To realize the study objectives, data from the CBN quarterly survey of consumer confidence and expectation spanning 2009 to 2011 was decomposed into monthly series to improve on the number of observations.

To account for variations in the zonal demand pattern, fixed effect panel regression was estimated with EGLS, accounting for cross-section weights. For detailed insight into the macroeconomic variables that account for changes in private consumption pattern, income and prices were disaggregated into current income, and expected income in the first quarter and next twelve months; while price was decomposed into prices of food and durables.

The result shows strong evidence of positive relationship between consumer confidence and household planned spending. Aside exchange rate, consumer confidence has the highest influence on consumption, accounting for about 1.7% change in planned spending, while exchange rate accounts for 3.2%. Other insightful outcomes from the regression are that consumers are more concerned with movements in the price of food items than durables; while current and future income positively influences their consumption pattern; however the impact of income on planned expenditure worsens as they move deeper from medium to long run. Consumers will rather reduce consumption than increase consumption based on such long period income uncertainties. Thus, the short run marginal propensity to consume (MPC), surprisingly and informative too, is substantially larger than the long run marginal propensity to consume. This possibly results from loss of confidence in savings. Finally, expected depreciation of Naira decreases planned spending because of its impact on the general price level, given that Nigeria is import dependent.

### 5.2 Policy implication

Since the buying intentions of households to a very large extent are influenced by consumer confidence, aggregate demand policy targeted to boost private consumption will not be effective if there are structures in the economy that have depressing effect on consumer confidence. Also the relative large size of short run MPC over the medium and long run MPC is indicative of weak interest rate to channel fund from savers to investor. There is need to encourage household savings habit by addressing the widening interest rate spread. Even at that, the CBN on several occasions pointed out that interest rate as a transmission mechanism is weak; importantly, lending rate hardly respond to changes in policy rate. Consequent upon that is a more urgent need to have a reassessment of the factors that determine interest rate movement because it seems interest rate in Nigeria suffers from the problems of identification, particularly business environment. Finally, it emphasis that expenditure switching/changing policies in Nigeria may not achieve the desired objectives, if the domestic output cannot meet up with the domestic demand; else currency devaluation/depreciation will have damping effect on consumption by jacking up domestic prices through import prices.

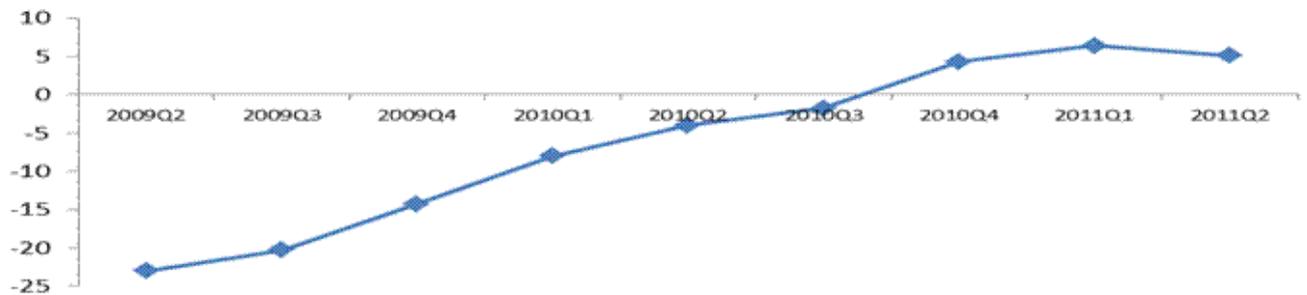
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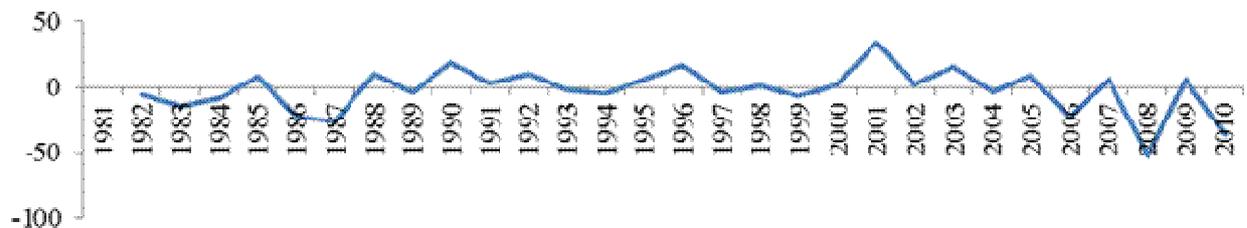
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**Appendix A: Presentation of charts used for the analysis**



Source: Charted based on the CBN survey of consumer expectation (statistical bulletin, 2010)

**Figure 1: Trends in consumer confidence index, 2009Q1-2011Q2**



**Figure 2: Real growth rate of private consumption, 1981-2010**

Source: Computed based on data from CBN statistical bulletin, 2010

**Appendix B: Presentation of regression result used for analysis**

**Table 1: Predictors of Planned Expenditure (CBI?)**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	70.79942	12.36034	5.727950	0.0000***
CCI?	0.141321	0.036402	3.882270	0.0001***
Y0?	0.157112	0.029308	5.360683	0.0000***
Y1?	0.072068	0.017394	4.143175	0.0001***
CPIf?	-0.081944	0.025430	-3.222345	0.0015***
CPId?	-0.158926	0.059006	-2.693407	0.0078*
SAV?	-0.032609	0.020187	-1.615322	0.1081
NERo?	-0.268647	0.049292	-5.450169	0.0000***
AR(1)	0.953190	0.028765	33.13726	0.0000***
Fixed Effects (Cross)				
_NC--C	17.63014			
_NE--C	-19.87490			
_NW--C	-7.972077			
_SE--C	20.86928			
_SS--C	0.678463			
_SW--C	-11.33090			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

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R-squared	0.903783	Mean dependent var	58.68536
Adjusted R-squared	0.896248	S.D. dependent var	21.74624
S.E. of regression	3.946688	Akaike info criterion	17.35828
Sum squared resid	2585.674	Schwarz criterion	17.60662
Log likelihood	-1548.245	Hannan-Quinn criter.	17.45897
F-statistic	119.9442	Durbin-Watson stat	1.979713
Prob(F-statistic)	0.000000		

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Unweighted Statistics

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R-squared	0.893041	Mean dependent var	52.22333
Sum squared resid	2585.672	Durbin-Watson stat	2.011629

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Legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

**Table 2: Redundant Fixed Effects Test:**

Test cross-section fixed effects

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Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.851456	(5,166)	0.0004***

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Cross-section fixed effects test equation: Dependent Variable: CBI?

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	72.31667	18.32213	3.946958	0.0001***
CCI?	0.174867	0.038975	4.486639	0.0000***
Y0?	0.133458	0.029986	4.450647	0.0000***
Y1?	0.055651	0.018777	2.963839	0.0035***
FCPI?	-0.082212	0.025965	-3.166233	0.0018***
CPId?	-0.142527	0.061423	-2.320430	0.0215*
SAV?	-0.020846	0.022111	-0.942786	0.3471
NERo?	-0.315251	0.050704	-6.217522	0.0000***
AR(1)	0.968980	0.025529	37.95647	0.0000***

Weighted Statistics

R-squared	0.882684	Mean dependent var	61.37687
Adjusted R-squared	0.877195	S.D. dependent var	28.38952
S.E. of regression	4.162991	Sum squared resid	2963.514
F-statistic	160.8247	Durbin-Watson stat	1.959985
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.887887	Mean dependent var	52.22333
Sum squared resid	2710.255	Durbin-Watson stat	1.991303

**Table 3: Redundant Variable Tests for SAV? on Planned Expenditure (CBI?)**

F-statistic	15.35097	Prob. F(1,166)	0.0001***
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	63.77292	8.707435	7.323962	0.0000***
CC12?	0.151591	0.037363	4.057213	0.0001***
Y0?	0.164928	0.029511	5.588739	0.0000***
Y1?	0.078548	0.017671	4.445085	0.0000***
CPIf?	-0.064750	0.025068	-2.582961	0.0107*
CPI4d?	-0.149096	0.059589	-2.502066	0.0133*
NERo?	-0.335419	0.047671	-7.036144	0.0000***
AR(1)	0.937800	0.030703	30.54379	0.0000***

Cross-section fixed (dummy variables)			
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Weighted Statistics			
R-squared	0.903312	Mean dependent var	60.34229
Adjusted R-squared	0.896365	S.D. dependent var	22.16729
S.E. of regression	4.112771	Sum squared resid	2824.786
F-statistic	130.0177	Durbin-Watson stat	1.944345
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.892171	Mean dependent var	52.22333
Sum squared resid	2606.689	Durbin-Watson stat	1.982618

Legend: \* p<.05; \*\* p<.01; \*\*\* p<.001

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