

AN ANALYSIS OF NIGERIA FOOD IMPORTS AND BILLS

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Abstract

An analysis of Nigeria's food import structure and bills throws light on the trend in the importation of food in the period that marks about a decade before the current political dispensation to 2010. The broad objective of this study is, therefore, to analyze Nigeria's imports and bills in 1990-2010. Secondary data were sourced to meet the requirements of this study. National Bureau of Statistics (NBS) was visited to collect the data. Complementarily, Central Bank of Nigeria (CBN) was also contacted. Nigeria imported an average of ₦1.923 trillion worth of commodities per annum (at current prices) in the period. In essence, the nation imported about ₦1.0 billion worth of food per day in the period 1990-2011. This was about USD 9.28 million worth of food per day in the period. The result reveals that although the country had a positive trade balance (on the aggregate) annual food import bill was in multiples of five times of the export.

Keywords: Nigeria, Food Imports, Commodities, Bills, Exports

INTRODUCTION

Food remains the most critical need for human survival. FAO's motto "*Fiat panis*" literally meaning "Food comes first" supports this assertion. Nations, therefore, strive to meet the food needs of their citizens in a food security sense by promoting food production within borders and complementing as necessary with importation across borders. The two components have definite planning options and outcomes. When a nation proactively plans its food security goals, the preponderance of the food consumed will be locally produced by her farmers. As such, the complementary food import will be minimal. A case for import is found in the incomplete nature of the ecological wealth of each nation which implies that no nation has a comprehensive or total comparative advantage for the production of all kinds of food consumed within her borders.

However, depending more on imports with regard to food consumed by the inhabitants is not only wasteful but detrimental to the overall growth and future of the agricultural sector of the nation's economy. The situation is worse when food commodities which a nation has comparative advantage for their production are being imported. Moreover, food importation (and importation in general) in a nation with high comparative corruption perception index is more deleterious. The bills paid could be diverted into wrong accounts with no commodity supplied at the end of it all.

Objectives of the new agricultural policy, in Nigeria include:

- (i) to achieve sufficiency in basic food supply and the attainment of food security;
- (ii) to increase production and processing of export crops, using improved production and processing technologies;
- (iii) to increase agricultural raw materials for industries;
- (iv) to generate gainful employment in agriculture;
- (v) to obtain rational utilization of agricultural resources, improved protection of agricultural resources from drought, desert encroachment, soil erosion and flood and the general preservation of the environment for the sustainability of agricultural production;
- (vi) to promote increased application of modern technology to agricultural production; and
- (vii) to improve the quality of life of rural dwellers.

The above policy objectives imply that the agricultural sector should be vibrant enough to support the food security goal. This, however, cannot be said of the sector which has resulted in the colossal importation of food. Various negative descriptions have been used to condemn food importation. For instance it is generally believed that a nation that cannot feed its citizens is not as independent as it thinks. Also, food importation itself is an obstacle to sustainable agricultural production and food security. Uncontrolled food importation is toxic to the economy.

Nigeria is a net importer of some core food commodities. Such commodities include rice, sugar, wheat flour, fish, milk, etc. A cursory look at the different agricultural production-targeted initiatives and programmes of governments suggests that food importation should be on the decline. It is like government is handling the issue of food importation with kid gloves; this is worrisome and tragic.

An analysis of Nigeria's food import structure and bills will throw light on the trend in the importation of food in the period that marks about a decade before the current political dispensation to 2010. The broad objective of this study is, therefore, to analyze Nigeria's imports and bills in 1990-2010. The specific objectives are:

- (a) To identify the major food commodities imported;
- (b) To estimate trends in the importation of such major commodities; and
- (c) To offer suggestions to improve local production and reduce importation.

Justification

The Federal Government of Nigeria's (FGN's) posture to a successful food security plan is evident in her support to various agricultural production initiatives and programmes. The level of importation of food is therefore, not expected especially against the backdrop of colossal expenses on these initiatives and programmes which should give positive impact in the overall food production efforts of farmers.

Various food commodities are imported into the country on an annual basis. Nigeria's imports against disappointing rising global food prices, soaring inflation, food insecurity, high level of poverty and hunger among millions of poor farmers and rural dwellers, in the main, should be discouraged. According to FMARD (2011) in 2010 alone, Nigeria spent ₦635 billion on importation of wheat, ₦356 billion on rice, which is tantamount to spending about ₦1.0billion per day, ₦217 billion on sugar and ₦97billion on fish in spite of all the endowed marine resources, rivers, lakes and creeks of the nation.

Imported food is meanwhile, causing a lot of diseases in developed nations with fish and spices (particularly peppers) being the most common culprits. For one reason or the other, but more of poor health records and inability to trace the core source of diseases, this has not been flagged in Nigeria. It is expedient to establish over the period the respective extant government policies vis-a- vis the violation of such as par food importation activities.

RESEARCH METHODOLOGY

Secondary data were sourced to meet the requirements of this study. National Bureau of Statistics (NBS) was visited to collect the data. Complementarily, Central Bank of Nigeria (CBN) was also contacted. Other information resource avenues of the two agencies were equally contacted for available data. The quantities of each imported food item and the associated bills for the period 1990-2010 constituted the raw data for the study. The breakdown of annual figures into quarterly data could not be explored to provide seasonal patterns of food importation because data were provided only on annual basis.

Items of descriptive statistics inclusive of mean, range etc., were used to present the operational values of import bills of major food commodities. Time-series analysis was carried out to estimate the coefficients of import and time variation using the simplified model:

$$Y = g(X, T) \dots\dots\dots i$$

where,

Y = Value of total food imports in year y, (₦)

X = Average value of imports (₦) in year y-1,

T = Time trend variable (an integer 1990 = 1, 1991 = 2, 1992 = 3, 2011 = 22).

Another model specified below was estimated to establish the part played by foreign reserve in food importation:

$$Y = f(X) \dots\dots\dots ii$$

where, Y = Value of total food imports in year y, ₦

X = Nigeria Foreign reserve in year y, \$

Linear, quadratic and cubic functional forms will be estimated.

ANALYSIS & FINDINGS

The result, according to table 1 reveals that Nigeria imported an average of ₦1.923 trillion worth of commodities per annum (at current prices) in the period. This amounted to an average of US\$ 18.989billion. Food import was on the average in the period ₦361.87 billion. In essence, the nation imported about ₦1.0 billion (precisely ₦0.991billion) worth of food per day in the period 1990-2011. This was about USD 9.28 million worth of food per day in the period.

Table 1: Broad Statistics of Imports, 1990-2011* (at current prices)

| <i>Variable</i> | <i>Total</i> | <i>Mean</i> |
|-------------------------------|---------------|--------------|
| Aggregate import, ₦m. | 42,315,824.86 | 1,923,446.58 |
| Aggregate import, \$m. | 417,753.08 | 18,988.78 |
| Total food import, ₦m | 7,961,170.90 | 361,871.40 |
| Total food import, \$m | 74,487.37 | 3,385.79 |

*2011 total import value was provided along by National Bureau of Statistics

Source: Calculated from NBS Imports data

The value of aggregate exports from Nigeria for the period of 1990-2010 is given in Table 2. Average annual export was ₦4.1 trillion at current prices which amounted to USD 40.52billion. However, average annual total food export in the period was ₦70.04 billion or USD 585.06 million. The table reveals that although the country had a positive trade balance (on the aggregate) annual food import bill was in multiples of five times of the export.

Table 2: Broad Statistics of Exports, 1990-2011* (at current prices)

| <i>Variable</i> | <i>Total</i> | <i>Mean</i> |
|-------------------------------|---------------|--------------|
| Aggregate export, ₦m. | 90,226,890.83 | 4,101,222.31 |
| Aggregate export, \$m. | 891,460.55 | 40,520.93 |
| Total food export, ₦m | 1,540,930.74 | 70,042.31 |
| Total food export, \$m | 12,871.41 | 585.06 |

*2011 total import value was provided along by National Bureau of Statistics

Source: Calculated from NBS Exports data

Table 3 provides more statistics on the comparison of imports in the period with some other variables. For instance, an average annual total food imports was 18.81 percent of average aggregate imports. It was 516.65 percent of total food imports; 8.82 percent of aggregate exports; 243.33 percent of 2010 Federal Government Agriculture budget and 332.03 percent of 2010 Agriculture allocation (2010 Agriculture budget was ₦148.716 billion while allocation was ₦108,986 billion). Table 3 also affirms a daily food import bill of about ₦1.0 billion in the period.

Table 3: Average Annual Total Food Imports (1990-2011): Statistics and Some Implications

| <i>Description</i> | <i>Value</i> |
|--|--------------|
| Percentage of aggregate imports | 18.81 |
| Percentage of total food exports | 516.65 |
| Percentage of aggregate exports | 8.82 |
| Percentage of 2010 Federal Government Agric. Budget | 243.33 |
| Percentage of 2010 Federal Government Agric. Allocation | 332.03 |
| Average daily imports | about ₦1.0bn |

Source: Calculated from NBS Imports data

The top ten food commodities with highest import bills in the period 2006-2010 are shown in Table 4. Wheat derivatives led with an annual average of ₦164.77 billion followed by fish (₦113.63 billion), milk/diary (₦62.51 billion), rice (₦54.24 billion) and sugar (₦38.61 billion). The above listed commodities accounted for over 84 percent of the total import bills of those ten commodities. The sixth in the pack is 'prepared cereals', (₦31.99billion), followed by prepared vegetables and fruits (₦22.4 billion), Oils (₦20.96billion), oil seeds (₦5.1 billion) and cocoa (₦0.66billion).

Table 4: Major Food Imports, 2006 – 2010*

| <i>Commodity</i> | <i>Total Import (₦bil)</i> | <i>Average Import/yr. (₦bil)</i> | <i>Ranking</i> |
|------------------------------|----------------------------|----------------------------------|------------------|
| Wheat | 823.84 | 164.77 | 1 st |
| Prepared cereals | 159.60 | 31.92 | 6 th |
| Fish | 568.17 | 113.63 | 2 nd |
| Milk/Dairy | 312.57 | 62.51 | 3 rd |
| Sugar | 193.07 | 38.61 | 5 th |
| Rice | 271.19 | 54.24 | 4 th |
| Cocoa | 3.31 | 0.66 | 10 th |
| Oils | 104.82 | 20.96 | 8 th |
| Oil seeds | 25.51 | 5.10 | 9 th |
| Prepared Vegetables & Fruits | 111.98 | 22.40 | 7 th |

*2011 figures were not available at NBS on commodity basis.

Source: Calculated from NBS Imports data

The complement of Table 4 is table 5 which reveals the top nine food commodities with highest revenue in 2006-2010. Cocoa generated the highest average annual income (₦101.71billion) in the period distantly followed by Oil seeds (₦32.13 billion), fish (₦22.96 billion), fruits (₦14.35 billion), Coffee (₦2.6 billion), dairy (₦1.73 billion), prepared cereals (₦1.69 billion), sugar (1.22 billion) and vegetables (1.07 billion).

Table 5: Major Food Exports, 2006 – 2010*

| Commodity | Total Export (₦bil) | Average Export/yr.(₦bil.) | Ranking |
|-----------------|---------------------|---------------------------|-----------------|
| Cocoa | 538.56 | 101.71 | 1 st |
| Fruits | 71.73 | 14.35 | 4 th |
| Fish | 114.78 | 22.96 | 3 rd |
| Oil & Oil seeds | 160.64 | 32.13 | 2 nd |
| Dairy | 8.65 | 1.73 | 6 th |
| Coffee | 12.99 | 2.60 | 5 th |
| Prep Cereals | 8.46 | 1.69 | 7 th |
| Vegetables | 5.34 | 1.07 | 9 th |
| Sugar | 6.12 | 1.22 | 8 th |

*2011 figures were not available at NBS on commodity basis.

Source: Calculated from NBS Imports data

Juxtaposing the average values of imports and exports for these commodities as exposed in Table 6, it is evident that the nation was a net-importer for most of the commodities in the period. The nation only netted positive differences for Cocoa and oils and oil seeds.

Table 6: Estimated Gaps between major Imported and Exported Commodities (2006-2010)

| Commodity | Average Import/yr (₦bil) | Average Export/yr (₦bil) | Difference (₦bil) |
|------------------|--------------------------|--------------------------|-------------------|
| Wheat | 164.77 | - | (164.77) |
| Prepared cereals | 31.92 | 1.69 | (30.23) |
| Fish | 113.63 | 22.96 | (90.67) |
| Sugar | 38.61 | 1.22 | (37.39) |
| Dairy | 62.51 | 1.73 | (60.78) |
| Rice | 54.24 | - | (54.24) |
| Cocoa | 0.66 | 101.71 | (101.05) |
| Oils & Oil seeds | 26.06 | 32.13 | (6.07) |
| Veg. & Fruits | 22.40 | 15.42 | (6.98) |

*Figures in parentheses indicate deficits.

Source: Calculated from NBS Imports and Exports data.

Table 7 itemized the major source nations of the top five imported food commodities. It must be noted that the list is much wider. The major ones in terms of frequency and volumes of trade are listed.

Table 7: Major Food Imports' Origin

| <i>Commodity</i> | <i>Major Origin</i> |
|------------------|--------------------------------------|
| Wheat | USA; Canada; France; Argentina |
| Rice | USA; Thailand; India; Syria; Brazil |
| Fish | Iceland; UAE; Norway; China; Chile |
| Sugar | Brazil; Netherlands; China; France |
| Dairy | Netherlands; USA; N. Zealand; Sweden |

Source: NBS data

Table 8 attempts to compare Nigeria's farming landscape with those of selected major nations from which food was imported. While Nigeria's population engaged in farming is around 60-70 percent, only a meager 1.6 percent of USA population is into farming. Brazil's is 17 percent. This suggests that sectoral interdependence must be evident in both USA and Brazil. That is, the agriculture and industrial sectors of the two economies must have developed to the point that the former produces food and raw material for the latter while over the years (and in fact over decades) excess labour had moved from the agricultural (primary) sector to the industry. The industrial sector of Nigeria is still in the main, in the primordial stage of development to absorb the overload of workers in the agricultural sector. Moreover, this reflects in the average holding of crop farmers in the nations.

In USA and Brazil, the average farm holdings are 180Ha and 73.1 Ha, respectively, compared with Nigeria's 0.75ha. Average number of tractors per 100² km farm area is about seven (7) in Nigeria against Brazil's 173, India's 187 and USA's 273. These figures complement the level of agricultural development ratings of these nations. In India several low-power tractors suitable for the small holdings of the farmers (average of 1.33Ha) are in use. Although, aware of the relationship between soil status/condition and fertilizer use, the average fertility uptake in Nigeria is abysmally low (2.2kg/Ha) compared with over 100kg/Ha for all listed nations (in table 8) that we import food from. Greater efforts still need to be made to address all the relevant research, extension and agro-input delivery issues that are impeding the performance of the agricultural sector of Nigeria.

Table 8: Comparative Agric-related Features of Originating Countries & Nigeria

| <i>Feature</i> | <i>Nigeria</i> | <i>USA</i> | <i>Thailand</i> | <i>India</i> | <i>Brazil</i> |
|---------------------------------------|----------------|------------|-----------------|--------------|---------------|
| Percent (%) of Population farming | 70 | 1.6 | 41.5 | 51.1 | 17 |
| Arable land (mil. Ha) | 74 | 163 | 153 | 158 | 61.2 |
| % cultivated | 43.0 | 44.1 | 38.7 | 60.5 | 31.3 |
| No. of tractors / 100 ² km | 6.56 | 272.81 | N/A | 186.9 | 172.51 |
| Fertilizer uptake (Kg/Ha) | 2.12 | 109.45 | 118.94 | 167.21 | 125.05 |
| Average Holding (Ha) | 0.75 | 180 | 3.6 | 1.33 | 73.1 |

At the pace of importation in the period (1990-2010) forecasts for 2015 and 2020 are presented in table 9. We believe, however, that the on-going Agricultural Transformation Agenda (ATA) of the nation as well as proclamations of the Hon. Minister of Agriculture at different fora [inclusive of 2013 National Council on Agriculture (NCA) held in Abeokuta, Ogun State] on related development will reduce the volume of food imports and the forecast for 2015 and 2020 may at the end of the day be overestimates.

For instance, there exists a \$40 million scheme to eliminate rice imports by 2015. Also, there is a Presidential promise to create 500,000 jobs by turning Nigeria into a major food exporting nation (FMARD, 2012).

Table 9: 2015 and 2020 food imports forecasts, '000MT

| <i>Commodity</i> | <i>2015</i> | <i>2020</i> |
|-------------------------|-------------|-------------|
| Wheat | 4,294.51 | 5,035.58 |
| Fish | 3,917.06 | 4,648.20 |
| Rice | 1,296.25 | 1,380.55 |
| Sugar | 752.17 | 774.72 |
| Milk | 93.63 | 120.58 |
| Prep cereals | 362.47 | 466.08 |
| Prepared Vegetable, etc | 363.79 | 480.59 |

Source: Author's calculation based on NBS data.

Table 10 highlights the set job creation targets for various commodity value chain activities of ATA. It is expected that the Growth Enhancement Support Scheme (GESS) directed at smallholders along with the value-chain initiative of ATA, palpable development in the sector will materialize soon.

Table 10: Job Creation Targets of Agricultural Transformation Agenda of Federal Government of Nigeria.

| <i>Commodity</i> | <i>Production</i> | <i>Processing</i> | <i>Total</i> |
|------------------|-------------------|-------------------|----------------------|
| Rice | 881,000 | 161,000 | 1,042,000 |
| Cassava | 693,000 | 507,000 | 1,200,000 |
| Maize | 300,000 | 300,000 | 600,000 |
| Cocoa | 390,000 | 42,000 | 432,000 |
| Cotton | 125,000 | 22,000 | 147,000 |
| Sorghum | 90,000 | 18,000 | 108,000 |
| Beef | Direct & spin off | | 700,000 |
| Poultry | Commercial | 51,000 | Rural Family 131,000 |
| Fisheries | (for 5 years) | | 100,000/yr |

Source: FMARD (2012)

Aside other issues, the price of imported food items like other imported commodities are not static. On the average they are forever rising. Konandreas (2012) discussed at length trade policy responses to food price volatility in poor net food importing countries. He opined that since the late 1990s, the world has entered a period of tight food supplies, higher prices and increased price volatility.

Also, he noted that the need for global collaboration to promote food is clear but emphasized that the past several years have seen many examples of supply shocks that have left many less developed countries with an acute lack of basic foodstuffs. Apart from supply shocks from the originating nation of imported food, the rising price culminates in imported inflation to the importer. The needful must be done to minimize these effects on the importer's economy.

Table 11: Some Commodity Price Forecasts

| <i>Commodity</i> | <i>2015</i> | <i>2020</i> | <i>Percent change</i> |
|----------------------|-------------|-------------|-----------------------|
| Wheat, \$/mt | 250 | 260 | 4.0 |
| Rice, \$/mt | 470 | 483 | 2.78 |
| Sugar, \$/mt | 340 | 380 | 11.8 |
| Cocoa, ¢/kg | 175 | 170 | 2.86 |
| Coffee, arabica ¢/kg | 255 | 230 | 9.80 |
| Coffee, robusta ¢/kg | 180 | 150 | 16.67 |

Source: The World Bank: Global Commodity Markets (2012)

The long and short of doing something useful to reduce food importation is to increase productivity and ultimately production. Table 12 informs that substantial gaps exist between the potential and current attained yields of several food crops. The gaps range from 100 percent for rice to over 365 percent for maize. If these gaps could be filled through improved production among farmers and average holding expanded too, then aggregate production and supply will *ceteris paribus* increase thereby reducing food importation. Therefore, as alluded above agricultural research, extension and agro-input/services delivery must be revisited and sustainably executed in the country.

Table 12: Yield Gaps of Selected Crops in South West Nigeria.

| <i>Crop</i> | <i>Actual (Mt/Ha)</i> | <i>Potential yield (Mt/Ha)</i> | <i>Gap, %</i> |
|-------------|-----------------------|--------------------------------|---------------|
| Maize | 1.5 | 7.0 | 367 |
| Rice | 2.5 | 5.0 | 100 |
| Cassava | 12.0 | 45.0 | 275 |
| Yam | 11.36 | 30.0 | 164 |
| Cocoa | 0.4 | 1.0 | 150 |
| Tomato | 6.9 | 20.0 | 190 |

Source: Adapted from various sources.

This section of the paper deals with estimated models.

$$Y = g(X, T) \dots\dots\dots i$$

where,

Y = Value of total food imports in year y, (₦)

X = Average value of imports (₦) in year y-1,

T = Time trend variable (an integer 1990 = 1, 1991 = 2, 1992 = 3, ... 2011 = 22).

Regression results Model i:

$$Y = -1.612E10 + 1.696X$$

(3.669)

F = 13.461

R² = 0.372

$$Y = -2.357E11 + 3.632E10X + 0.866T$$

(0.996) (0.889)

F = 7.179

R² = 0.370

Figures in parentheses are std. errors

The time trend T variable introduced to the model as an explanatory variable was to explore its influence on Y and/or X. The low \bar{R}^2 (coefficient of determination) of 0.37 which means that only 37% of the variation in Y is explained by the linear relationship of X and T with it does not support the acceptance of the model. Meanwhile, the F values are significant. It can be conveniently concluded that time is not a statistical determinant of aggregate imports. In essence, importation of food in the period was more of a routine business that has no time factor effect on it. This is unexpected considering the various trade policies that the country had adopted over the years. The Structural Adjustment Programme (SAP) banned rice importation in 1986 which subsisted till 1995 when it was lifted in line with the World Trade Organization (WTO) agreement on trade liberalization. Since lifted, the tariffs on imported rice have increased from an average of 50% 1996-1999 to 100% in 2002. In 2003, government increased the tariff to 150%. Rice importation was banned again in 2004-2005. It was lifted again but reintroduced in 2009-2010. All the same it was reported that three million tonnes of rice that worth two billion Naira is illegally imported into Nigeria annually.

The 2nd estimated model revealed a significant linear relationship between total food imports and the nation's foreign reserve. This may suggest that approvals received for food importation are foreign reserve determined. Expending foreign reserve on food may be anti-development. Such funds are better for greater development issues and should be so utilized.

$$Y = f(X) \quad \dots\dots\dots \text{ii}$$

where, Y = Value of total food imports in year y, ₦

X = Nigeria Foreign reserve in year y, \$

Linear, quadratic and cubic functional forms were estimated.

Regression results: Model ii:

Linear: $Y = 2.982E11 + 0.831X^{***}$
(7.133)

F = 50.876 $R^2 = 0.704$

Quadratic: $Y = 2.277E11 + 1.047X - 3.393E^{-14}X^2$
(1.892)

F=24.448 $R^2 = 0.691$

Cubic: $Y = 3.288E11 + 0.481X + 1.928E^{-13}X^2 - 2.174E^{-26}X^3$
(0.376)

F=15.732 $R^2 = 0.678$

(*** means significant at $p < 0.01$) Figures in parentheses are std. errors

CONCLUSIONS

Food importation poses both emergency and significant threats to any nation. Allusions had been made to the endowments of the nation that can propel self sufficiency. Therefore, a proactive and sustainable Food Production Stimulus Plan should be evolved to mitigate importation dependency. The components of this Plan

- i. develop annual Food Balance Sheet;
- ii. articulate the production platform for this across States/LGAs/producers of the Federation;
- iii. seriously encourage the evolution of medium & large farms/farmers;
- iv. systematically bridge the yield gaps;
- v. promote effective coordination of local production & distribution of cognate agro-inputs; and
- vi. further strengthen the strategic food reserve programme through on-going value chain paradigm and activities.

While the above Plan will further stimulate production to complement ATA, efforts must still be made to:

- i. Put some control on the taste of Nigerians. We are blessed with a variety of food.
- ii. Promoting made in Nigeria food abroad. This is on but should be given greater emphasis. This calls especially for more investments and support to value chain activities that will enhance the quality of the proposed commodities for international markets.

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