



Received: 21-11-2024
Accepted: 02-01-2025

ISSN: 2583-049X

Microeconomic Determinants of Rising Food Prices in Nigeria- An Analytical Perspective

¹ Idisi PO, ² Adeagbo BA, ³ Maduekwe IM, ⁴ Fidelis Emeka Solomon, ⁵ Udoh Hannah Ekong

^{1, 2, 3, 4, 5} Department of Agricultural Economics, Faculty of Agriculture, The University of Abuja, PMB 117, Abuja, Federal Capital Territory, Nigeria

DOI: <https://doi.org/10.62225/2583049X.2025.5.1.3641>

Corresponding Author: **Fidelis Emeka Solomon**

Abstract

This study examines the microeconomic determinants of rising food prices in Nigeria from an analytical perspective, focusing on inflation, exchange rate fluctuations, agricultural policies, and psychological behaviours. The study highlights the complex interplay between cost-push inflation, wage-price spirals, and currency depreciation, which contribute to rising food prices, particularly in import-dependent economies like Nigeria. The depreciation of the Nigerian naira increases the cost of imported food items, exacerbating inflationary pressures and leading to higher domestic food prices. Psychological factors, such as panic buying and hoarding, amplify price volatility, especially during uncertain or crises. Regional disparities in

food pricing, driven by infrastructure deficits, insecurity, and inefficient supply chains, also contribute to food price instability. Government policies shape food price dynamics, including agricultural subsidies, price controls, and trade regulations. However, inconsistent policy implementation and coordination often lead to market distortions. The study recommends enhancing agricultural productivity, stabilizing the currency, improving infrastructure, managing market behaviour, and implementing effective price stabilization mechanisms to mitigate the impact of rising food prices on consumers. By addressing these issues, Nigeria can achieve more stable food prices and improved food security for its population.

Keywords: Microeconomic, Rising Food Prices, Nigeria, Consumer Preference and Market

1. Introduction

Food price inflation in Nigeria has become an increasingly critical issue, with significant implications for the nation's economy and the livelihoods of its citizens. As one of Africa's largest economies, Nigeria is no stranger to fluctuations in food prices, which are influenced by various microeconomic factors. The agricultural sector, which plays a key role in the nation's economic development, is characterized by unstable food prices driven by factors such as poor marketing systems, supply-demand imbalances, and external shocks (Mukaila *et al.*, 2021) ^[30]. Nigeria's food sector has faced significant challenges, leading to substantial price volatility.

According to the Nigerian Bureau of Statistics, the food index rose to 18.37% in May 2022 and continues to climb in 2024 (NBS, 2024) ^[32]. This surge in food prices is particularly evident in key staples, with the price of 1kg of beans increasing by 252.13% year-on-year, while tomatoes saw a staggering 320.67% rise. Other items such as Irish potatoes, garri, and yam also experienced sharp price hikes, all reflecting ongoing inflationary pressures within the food sector (NBS, 2024) ^[32]. Moreover, price hikes in essential foodstuffs have created more significant economic uncertainty, particularly for households heavily dependent on food consumption (Banerjee & Duflo, 2007) ^[9].

Both domestic and external factors influence the volatility in food prices in Nigeria. Domestically, insecurity, poor infrastructure, and climate variability significantly impact agricultural productivity, causing fluctuations in food availability and prices (FAO, 2022) ^[17]. In addition, exchange rate fluctuations and global market trends have further complicated food price stability (Nwokoji *et al.*, 2021) ^[35]. Globally, disruptions in food supply chains exacerbate price increases and food insecurity worldwide due to rising food prices (NBS, 2024) ^[32].

Knowledge of the microeconomic determinants of food price inflation is crucial for formulating effective policies to address these challenges. These factors include agricultural productivity, exchange rates, input costs, and the functioning of food

supply chains. Despite its vast agricultural potential, Nigeria remains a net importer of crucial food items, and recent years have seen a significant rise in the cost of staples like rice, wheat, and sugar (World Bank, 2022)^[51]. The volatility in food prices has led to higher inflation rates and exacerbated food insecurity, malnutrition, and economic inequality across the nation, particularly among poor households (Akanni, 2002)^[3]. Therefore, studying the underlying microeconomic determinants offers valuable insights into how Nigeria can stabilize its food markets and improve overall economic stability.

This paper aims to explore the microeconomic factors driving the rising food prices in Nigeria, with a particular focus on agricultural productivity, market structure, and external influences such as exchange rates and oil prices. This paper aims to provide a deeper understanding of the mechanisms behind food price volatility and its economic impact by analyzing these factors.

The scope of the paper includes a review of existing literature, an analysis of key economic indicators, and policy recommendations to mitigate food price fluctuations in Nigeria. Understanding these microeconomic determinants is critical to crafting policies that enhance food security, reduce inflationary pressures, and support sustainable agricultural development in Nigeria.

2.1 Demand-Side Factors Affecting Food Prices in Nigeria

Several demand-side factors contribute to the volatility and rising prices of food in Nigeria, with consumer income, population growth, urbanization, consumer preferences, and government policies playing significant roles.

i. Consumer Income and Purchasing Power

Changes in consumer income and purchasing power are critical determinants of food prices. As consumer income increases, demand for food items generally rises, especially for higher-quality or more expensive products. Conversely, a decline in purchasing power, particularly for low-income households, tends to decrease the overall demand for food, which can lead to price adjustments (Kufel, 2017)^[24]. In Nigeria, the situation is more complex due to a high reliance on imported food items. As inflation increases, consumer purchasing power diminishes, exacerbating food insecurity. According to a study by Picodi (2023)^[42], Nigerian households allocate a staggering 59% of their disposable income to food, highlighting the significant burden of food costs on the average consumer. This is a direct consequence of the nation's reliance on food imports, inflationary pressures, and issues such as insecurity and an unproductive labour force, which all contribute to rising food prices (World Bank, 2020)^[50].

ii. Population Growth and Urbanization

Nigeria's growing population and increasing urbanization are major drivers of food demand and, consequently, food price inflation. Population growth naturally leads to higher demand for food, and in urban areas, where access to food is often more limited and competitive, this demand can lead to price surges. Rural-to-urban migration, driven by factors such as limited agricultural policies and the economic conditions in rural areas, has strained food supply chains. Urban areas face increased pressure on food distribution systems, which often leads to shortages and higher prices. The lack of sufficient rural infrastructure, exacerbated by insecurity and conflicts, reduces agricultural productivity, further tightening the food supply (Adetiloye, 2010)^[2].

According to Onwusiribe *et al.* (2020)^[41], the migration of people from agricultural zones to cities has escalated the proportion of income spent on food, pushing food price inflation to levels that surpass 20%.

iii. Consumer Preferences and Taste Shifts

Shifting consumer preferences and changing tastes also play a role in the demand for certain food items. As global trends influence local consumer choices, the demand for specific foods may increase or decrease, affecting their prices. For instance, as more consumers in Nigeria begin to prefer processed or imported foods, the demand for local agricultural products may decline, potentially leading to price volatility in the domestic food market. These changes in preferences can be influenced by factors such as cultural shifts, exposure to international diets, and the availability of foreign foods (Banerjee & Duflo, 2007)^[9]. As consumer tastes evolve, the demand for certain food items increases, which can contribute to price hikes, particularly for imported goods.

iv. Government Policies on Subsidies and Tariffs

Government policies, especially those related to subsidies and tariffs, significantly shape demand-side pressures on food prices. In Nigeria, government interventions such as subsidies for staple foods or the imposition of tariffs on imported goods have a profound impact on food prices. The Nigerian government has periodically released grains from the Strategic Grains Reserves (SGR) to ease food price inflation. However, these interventions often have limited success in curbing the broader trend of rising food prices. For example, despite the release of 40,000 metric tons of grains in 2022 (Udochukwu *et al.*, 2022) and additional releases in 2024, food prices have remained high, reflecting the broader structural issues that hinder food price stabilization. Imposing tariffs on food imports can lead to price increases by limiting the availability of cheaper foreign goods, thus heightening demand for local alternatives and pushing prices upward. Additionally, removing fuel subsidies has been criticized for exacerbating inflationary pressures as transportation costs increase, directly affecting food distribution and prices (Obi, Oniore & Nnadi, 2016; Idisi, Ojokojo & Fidelis, 2023)^[36, 22].

Demand-side factors such as consumer income, population growth, urbanization, shifting preferences, and government policies all influence food prices in Nigeria. The increasing reliance on imported foods, combined with the challenges of an expanding urban population and inadequate government interventions, has led to a persistent rise in food prices. Understanding these factors is crucial for addressing food price inflation and formulating effective policies to stabilize the food market in Nigeria.

2.2 Supply-Side Factors Affecting Food Prices in Nigeria

Several supply-side factors contribute to the rising food prices in Nigeria, primarily linked to production costs and transport and distribution challenges. These factors can significantly increase the final cost of food products, impacting consumers and producers.

i. Production Costs

The cost of producing food in Nigeria has escalated due to the rising prices of key inputs such as labour, fertilizers, and fuel. These increases in production costs are directly passed on to consumers in the form of higher food prices. Labour costs have risen due to inflation and the need for skilled labour, while fertilizer costs have surged due to increased

global demand and supply chain disruptions. Additionally, the rising fuel prices, particularly for agricultural equipment and transportation, have driven up the cost of farming. According to Abimbola (2022)^[1] and Bolaji (2022)^[11], the increased fuel cost has affected transport operators across Nigeria, who, in turn, have raised transportation costs for both people and goods, leading to higher food prices. These rising costs are exacerbated by the country's dependency on imported agricultural inputs. As noted by Olomola (2013)^[39], the food crisis of 2008 in Nigeria was significantly influenced by the sharp increase in fuel prices, which escalated the cost of agricultural inputs and transportation, leading to a rise in food prices.

Both producers and consumers feel the impact of rising production costs. Producers face reduced profit margins and are forced to adjust their output to accommodate the rising costs of inputs. In response to these challenges, producers may reduce their production levels, further limiting the food supply in the market and driving higher prices (Bellemare, Lee & Just, 2020)^[10]. This is particularly true when producers are risk-averse and prefer to cut back on output to avoid financial losses in uncertain market conditions (Bellemare, 2020)^[10].

ii. Transport and Distribution Costs

Transportation and distribution costs are critical in determining the final price of food products. The inefficiencies in Nigeria's logistics infrastructure and rising fuel prices have exacerbated food price inflation. As transportation costs increase, the distribution of food items becomes more expensive, leading to higher prices at the retail level. The cost of transporting food from production areas to urban markets has been a significant issue, with transport operators raising prices to cover the increased costs of fuel and maintenance (Abimbola, 2022; Bolaji, 2022)^[1, 11]. This ripple effect on food prices nationwide as vendors pass on the added transportation costs to consumers. The lack of efficient infrastructure, such as roads and storage facilities, further increases the challenges in food distribution. Poor infrastructure often leads to delays and losses in food supply chains, causing food availability disruptions in various regions. According to Olomola (2013)^[39], these logistical challenges were evident during the 2008 food crisis when high transportation costs contributed to the sharp increases in food prices. As food supply became more limited and harder to transport, prices soared, especially for staple goods. Furthermore, the weak exchange rate in Nigeria has exacerbated the situation by increasing the cost of imported goods, further driving up the prices of food staples (Nigerian Institute of Social and Economic Research [NISER], 2009)^[34].

The production costs and transport and distribution challenges are crucial supply-side factors contributing to Nigeria's rising food prices. The escalating costs of labour, fertilizers, fuel, and transportation have made food production and distribution more expensive, ultimately leading to higher prices for consumers. Addressing these supply-side issues is crucial for stabilizing food prices and ensuring food security in the country.

2.3 Market Structure and Competition in Nigeria's Food Sector

i. Market Concentration

In Nigeria's food markets, especially in the livestock and beef sector, the market structure can significantly affect

pricing behaviour. While certain agricultural markets may exhibit characteristics of perfect competition, others show oligopolistic or monopolistic features. The beef market, for instance, operates under a largely competitive system with many sellers, where product homogeneity (i.e., the beef sold is largely standardized) leads to lower chances of collusion or price manipulation among traders (Dou, Goldstein & Ji, 2024; Lemchi, 1999)^[12, 25]. This suggests that beef marketers have little influence over market prices, promoting efficiency in pricing.

However, market concentration can also manifest in certain segments, particularly when few traders dominate the supply chains or when barriers to entry limit competition. This concentrated structure often results in less price sensitivity, leading to higher food prices for consumers. The role of large-scale middlemen or market leaders can skew pricing, with these players exerting significant control over prices and distribution channels, as is seen in the beef marketing system in Nigeria (Mafimisebi, 2012)^[26].

ii. Role of Middlemen and Supply Chain Actors

Middlemen play a critical role in the pricing and distribution of food products, particularly in agricultural markets. In Nigeria, the beef market, like many other agricultural sectors, suffers from inefficiencies caused by the involvement of too many intermediaries. The extensive presence of middlemen increases the number of markups along the supply chain, resulting in higher prices for consumers compared to the prices paid to producers. Ekunwe *et al.* (2008)^[15] note that the involvement of multiple middlemen leads to high marketing costs and margins, distorting the efficiency of the market system.

This inefficiency is exacerbated by the perishable nature of agricultural products, such as beef, which are prone to spoilage and microbial degradation. The lack of efficient storage and transport facilities increases wastage and further drives up prices. Moreover, the inefficiency in the distribution system often leads to a significant gap between the producer price and the final retail price, undermining the affordability of food for consumers (Olukosi *et al.*, 2007)^[40]. These inefficiencies contribute to higher costs at the retail level, even as producers receive lower compensation for their products.

iii. Importation and Trade Barriers

Import restrictions, tariffs, and exchange rate fluctuations also significantly impact food prices in Nigeria. The country is highly dependent on the importation of certain agricultural inputs, and trade barriers such as import tariffs and restrictions can drive up the cost of these imports, further increasing production costs. As noted by Olomola (2013)^[39], the depreciation of the Nigerian naira and high import tariffs on agricultural products have contributed to rising food prices, particularly for imported goods.

Exchange rate volatility also plays a significant role in the inflation of food prices. As the naira weakens against foreign currencies, the cost of imported agricultural inputs—such as fertilizers, machinery, and even food staples—rises, translating into higher production and retail prices (NISER, 2009)^[34]. These import barriers not only increase costs for producers but also lead to supply shortages, as the cost of importing critical agricultural supplies becomes prohibitive.

The structure of the food market in Nigeria, particularly in the livestock sector, is influenced by market concentration, the role of middlemen, and trade barriers. While the beef market in some areas shows characteristics of perfect

competition, inefficiencies in the supply chain and the involvement of multiple intermediaries contribute to higher prices. Additionally, import restrictions, tariffs, and exchange rate fluctuations further exacerbate food price inflation. Addressing these structural and operational inefficiencies is essential for improving pricing behaviour and ensuring food affordability for consumers in Nigeria.

2.4 Inflationary Pressures and Cost of Living

i. General Inflationary Trends

Inflation, defined as the sustained increase in the price level of goods and services within an economy over time, directly impacts the cost of living by reducing the purchasing power of currency (Mankiw, 2014)^[27]. The International Monetary Fund (2023)^[23] highlights that inflation is typically measured using the consumer price index (CPI), which tracks the price changes of a set basket of goods and services. Inflation broadly impacts the economy, influencing all sectors, including food prices. As general inflation rises, the prices of basic commodities, including food, tend to follow suit. This dynamic is particularly evident in Nigeria, where inflation in food prices has been a growing concern in recent years (Ambachew *et al.*, 2012; FAO, 2018)^[7, 19].

The impact of inflation on food prices is not uniform across all regions, with significant variations noted worldwide. For instance, in the UK, food prices contributed more to inflation than other sectors in 2019, with inflation rising by 1.9% year-on-year despite some drops in the cost of clothes and other goods (Financial Times, 2019)^[18]. Siminincreased, global food inflation fluctuated over time, with notable drops between 2013 and 2017, but here in Africa, food price inflation increased from 6% to 14% during this period (FAO, 2018)^[19].

ii. Cost-Push Inflation in Food Prices

Cost-push inflation refers to price increases driven by higher costs of production, such as the rising cost of raw materials, labour, and energy. This phenomenon is particularly relevant in the context of food prices, where increases in input costs, such as fuel, labour, and agricultural inputs, often lead to higher food prices (Qayyum & Sultana, 2018)^[43]. A study by Rehman and Khan (2015)^[44] noted that indirect taxes and food exports were significant drivers of food inflation in Pakistan, demonstrating how changes in supply-side factors, such as taxation and external trade policies, can push up food prices. Similarly, the inflationary pressure on food prices in Nigeria was attributed to the high costs of crude oil, food imports, and poor agricultural production, all of which exacerbated the rise in food prices (Egwuma *et al.*, 2017)^[14].

Cost-push factors also extend to global commodity prices, including oil, which directly impact food production and transportation costs. For example, the significant rise in global oil prices has been a key factor driving food inflation, particularly in developing economies where food production and supply chains are heavily dependent on energy costs (Ambachew *et al.*, 2012)^[7]. The rising cost of agricultural inputs and transportation are crucial to understanding the dynamics of food price inflation, as they directly impact food items' affordability in developed and developing countries.

iii. Wage and Price Spiral

The wage-price spiral is a feedback loop where rising wages lead to higher production costs, which in turn lead to higher prices for goods and services, including food. This, in turn,

creates a demand for even higher wages to maintain purchasing power, further fueling inflation. The relationship between wages and food prices is particularly evident in many developing economies, where labour costs are a significant portion of food production expenses. Studies by Udoh and Isaiah (2018)^[48] have shown that inflation and money supply are crucial drivers of future inflation expectations in countries like Nigeria, indicating the role of wage expectations in fueling the inflationary cycle.

As food prices rise, workers demand higher wages to offset the increased cost of living, which can further increase costs for businesses, particularly those in the food sector. This cycle can exacerbate inflation, leading to a wage-price spiral that further erodes the affordability of food for consumers. In countries such as Nigeria, where inflation rates are high, the feedback loop between wages and prices is particularly pronounced, as both inflation expectations and wage demands continue to push up the cost of living (Ezeanyejí & Ugochukwu, 2015; Yelwa *et al.*, 2015)^[16, 52].

Inflationary pressures, particularly cost-push inflation driven by input costs and the wage-price spiral, have significant implications for food prices and affordability. The dynamic interplay between general inflation trends, rising production costs, and wage demands continues to shape the economic landscape, particularly in developing countries where the cost of living remains highly sensitive to fluctuations in food prices.

2.5 Role of Exchange Rates and Currency Depreciation in Food Price Dynamics

i. Exchange Rate Fluctuations

Exchange rate fluctuations, particularly the depreciation of the Nigerian naira, have a profound impact on food prices and the overall price levels in the economy. The depreciation of a nation's currency often results in the increased cost of imported goods, including food items. Since Nigeria relies heavily on imports to meet its food demands, a weaker naira means that importers must spend more to purchase foreign goods, leading to higher prices for imported foodstuffs. This is because the exchange rate directly influences the cost of purchasing goods in foreign currencies, and fluctuations in the naira's value increase the cost of these imports, ultimately driving up food prices within the domestic market (NBS, 2020; Abdulaziz *et al.*, 2016).

The impact of exchange rate volatility is particularly significant in economies dependent on food imports and raw materials. As noted by Obi *et al.* (2016)^[36], exchange rate movements play a crucial role in influencing global food prices and economic growth, as they affect the price of goods imported into the country. Additionally, exchange rate volatility can exacerbate speculation in markets, further distorting food prices and creating instability in domestic prices (Adetiloye, 2010)^[2].

ii. Impact on Import-Dependent Foods

For countries like Nigeria, where a significant portion of food items is imported, the exchange rate is a key determinant in food price inflation. The high dependency on imported food products means that any fluctuations in the exchange rate can lead to sharp increases in food prices. This phenomenon is evident in countries worldwide, as the depreciation of the national currency raises the cost of imported food, leading to inflationary pressures.

A comparative example can be seen in Malaysia, where exchange rate movements have been identified as one of the main drivers of food price inflation. According to Hasan and Mashi (2018) ^[21], the relationship between exchange rates and food prices is asymmetric in the short run but symmetric in the long run, suggesting that exchange rate fluctuations significantly impact food prices, particularly in the short-term. In the Malaysian context, the most effective policy response to mitigate these impacts was found to be reducing food imports to minimize the exchange rate pass-through effect on food prices (Hasan & Mashi, 2018) ^[21].

Similarly, in China, food price inflation, especially for staples like cereals, continues to drive consumer price inflation. International food prices, which are heavily influenced by exchange rates, play a significant role in China's inflation dynamics (Zhang *et al.*, 2014) ^[53]. This underlines the importance of currency fluctuations in determining food price trends globally.

Therefore, the relationship between exchange rate depreciation and food prices highlights the vulnerability of import-dependent economies to currency fluctuations, necessitating policy interventions that mitigate the impact on consumers and stabilize food prices.

2.6 Government Policies and Regulatory Environment

i. Agricultural Subsidies and Price Controls

Government policies play a critical role in stabilizing or exacerbating food prices. Agricultural subsidies, particularly those that support inputs like fertilizers, irrigation systems, and machinery, can have a stabilizing effect on food prices by lowering production costs. However, inconsistent policy implementation or lack of adequate support can lead to instability. As Akpan *et al.* (2014) ^[6] noted, price instability of agricultural commodities in Nigeria is common, especially with seasonal variations and supply-demand imbalances. For instance, government policies aimed at improving domestic production, such as the 2017 policy to increase tariffs on tomato paste imports from 5% to 50%, aimed to reduce reliance on imports and promote local production. Yet, despite such efforts, tomato output still falls short of demand by 1.2 million tonnes annually, highlighting the need for more consistent and effective policy implementation (GROWAFRICA, 2018) ^[20].

Moreover, price controls can have unintended consequences, as seen in the Nigerian. For example, policies intended to reduce inflation, such as lowering import tariffs on automobiles, can lead to negative outcomes, such as the potential closure of domestic assembly plants (PAN Nigeria Limited). This inconsistency in policy undermines investor confidence and disrupts economic stability, exacerbating challenges in agricultural price stability (Moshood & Momoh, 2007) ^[29].

ii. Trade and Export Policies

The effects of trade policies, including export bans, tariffs, and international trade agreements, are significant in shaping food prices. In Nigeria, export bans on certain agricultural products or the imposition of tariffs can lead to price fluctuations, as these policies directly affect the supply-demand equilibrium. For example, the imposition of tariffs on tomato paste imports in 2017 was intended to reduce Nigeria's reliance on foreign products. However, despite the policy, Nigeria still imports about 80% of its tomato paste from China, underlining the challenges of achieving food security through such trade measures (Bolaji,

2022) ^[11].

Furthermore, the broader trade and export environment impacts local food prices. In the absence of favourable trade agreements or when export barriers are enacted, countries may face higher food prices domestically due to reduced supply or increased production costs. As noted by Akintunde *et al.* (2012) ^[5], Nigeria's fragmented agricultural markets and the inconsistent flow of prices between regions contribute to price volatility, further emphasizing the need for coherent trade policies that support domestic production while also managing international trade relations effectively.

iii. Monetary Policies and Interest Rates

Monetary policies, particularly those set by the central bank, influence food price inflation by impacting the availability of credit and investment in agriculture. High-interest rates can increase the cost of credit for farmers, limiting their ability to invest in production and expand farm operations. The Nigerian agricultural sector has long suffered from poor access to credit, with high interest rates further constraining the ability of farmers to invest in productivity-enhancing measures. As Akanni (2013) ^[4] highlighted, the rising costs of agricultural inputs such as fertilizers and pesticides, combined with limited access to affordable financing, create a significant barrier to enhancing food production.

In addition, central bank policies that control inflation through interest rates can indirectly influence food prices. High inflation rates, driven by policies that affect the broader economy, often lead to increased food prices. According to the CBN Economic & Financial Review (2019), food imports, which account for a substantial portion of Nigeria's total imports, have continued to rise despite attempts to reduce reliance on foreign sources of food. This indicates that monetary policies aimed at controlling inflation need to be paired with strategic investments in agriculture and consistent regulatory frameworks to ensure long-term food price stability.

Government policies—ranging from agricultural subsidies and price controls to trade and export measures, as well as monetary policies—play a crucial role in determining food prices. Nigeria's policy inconsistencies and regulatory challenges, particularly in agricultural support and trade, have led to significant volatility in food prices, affecting both domestic production and imports. Policy coordination and consistency are essential to fostering stability and ensuring affordable food prices.

2.7 Consumer Behaviour and Food Price Expectations

Consumer expectations about food prices are crucial in understanding the fluctuations in food markets. These expectations often shape their purchasing decisions, influencing current market behaviour in significant ways. Traditional economic theories have often assumed that price expectations are rational, with consumers and producers accurately predicting future price trends based on available information. However, recent literature highlights that expectations about future prices are not always rational and can be influenced by psychological factors.

i. Expectations of Future Prices: How Consumer and Producer Expectations Influence Current Market Behaviour

The seminal works on price expectations, such as Waugh (1964) ^[49], present a simple model of naïve expectations, where consumers and producers assume that the price today will be the same as it was yesterday. This model can explain

cyclical fluctuations in market prices through the “cobweb” effect: High prices lead to higher supply, which causes prices to drop, and low prices increase demand, which eventually raises prices again. However, the stability of this cycle depends on the price elasticities of both supply and demand (Tomek & Kaiser 2014) ^[47]. While price stabilization would likely improve market stability, the cyclical nature of price expectations can introduce significant volatility.

Other models, such as Nerlove’s (1956) ^[33] adaptive expectations theory, suggest that past prices are used to forecast future ones, with more recent prices being given higher weight. This approach has been widely applied to agricultural markets, particularly in contexts where producers adjust their supply decisions based on expectations of future price movements. The rational expectations model proposed by Muth (1961) ^[31] argues that consumers and producers can make accurate predictions about future prices based on the available information, leading to optimal decision-making. However, more recent studies have found that expectations are not always fully rational, and there is often a disconnect between predicted and actual prices, especially in volatile markets.

Seale & Shonkwiler (1987) ^[45] found that stabilizing prices could increase production by reducing the uncertainty faced by producers. Their study on price risk, alongside other studies on risk management tools like futures contracts (Bellemare *et al.*, 2020) ^[10], suggests that price stability when anticipated by producers, can positively influence supply decisions. On the other hand, when producers expect volatile prices, their responses may be less predictable, leading to supply shortages or surpluses.

ii. Behavioural Economics in Food Markets: The Role of Psychological Factors

Behavioural economics highlights how psychological factors can drive market behaviour, often in ways that defy traditional economic predictions. In food markets, phenomena such as panic buying and hoarding are key examples of how psychological factors influence demand, pushing prices upward. This can happen during periods of uncertainty, such as when consumers anticipate a future food shortage or price hike. These actions are not necessarily based on rational assessments of supply and demand but rather on emotional responses to perceived threats.

A notable example of this is the observed surge in food prices during times of crisis, when consumers, fearing higher prices or shortages, may buy more than they need, thereby driving up demand and causing prices to rise further. These behaviours are often triggered by news reports, rumours, or other signals of potential price increases, even when the actual market conditions may not justify such price hikes.

In the case of agricultural markets, as seen in Nigeria, high inflation and rising input costs have often led to increased food prices (Okuneye *et al.* 2001; Shehu, Abdullahi & Mustapha, 2023) ^[38, 46]. For instance, the cost of fertilizers has increased dramatically over the years, directly influencing the cost of food production. As producers face higher costs and consumers expect further price increases, they may react by reducing their consumption, thus amplifying food insecurity and malnutrition (Mbah, Orjime & Mgbemena, 2022) ^[28]. This reflects the interplay between

actual price expectations and the psychological factors that drive consumer and producer behaviour.

In food markets, both rational and psychological factors contribute to the expectations of future prices, which, in turn, influence market behaviour. The interaction between consumer and producer expectations plays a critical role in shaping supply and demand, especially in the face of price risks and uncertainties. As the literature suggests, rational expectations models often fail to fully capture the complexities of consumer and producer behaviour, particularly in markets where psychological factors, such as panic buying and uncertainty, drive price volatility. Therefore, understanding food price expectations requires not only economic analysis but also an awareness of the behavioural tendencies that shape market dynamics.

2.8 Regional Disparities in Food Pricing

Regional disparities in food pricing in Nigeria are influenced by factors such as geographical differences, infrastructure, and agricultural conditions. Regions with limited access to transport and storage facilities face higher food prices due to supply chain inefficiencies. Insecurity, particularly in the North-West and North-Central regions, has exacerbated these disparities by restricting farmers’ access to land, further driving up prices (Oge, 2022) ^[37]. Additionally, rural areas often experience higher food prices than urban centres due to limited market access, lower purchasing power, and less efficient distribution networks. These factors contribute to significant regional price gaps, affecting both food security and economic stability.

3. Conclusion

This study has explored the complex and interrelated factors that influence food price dynamics, particularly in Nigeria, where food prices are subject to fluctuations driven by inflation, exchange rate volatility, agricultural challenges, and psychological factors. The rising cost of food, fueled by cost-push inflation, exchange rate depreciation, wage-price spirals, and psychological behaviours like panic buying, creates significant challenges for both consumers and producers. Additionally, regional disparities in food pricing, exacerbated by infrastructural limitations and insecurity, further deepen food insecurity and affordability issues.

Inflationary pressures and the behavioural responses to perceived food shortages contribute to market volatility, which undermines food access, particularly for vulnerable populations. Furthermore, the interplay between the high dependency on food imports and fluctuations in exchange rates highlights the sensitivity of food prices to global economic trends. Government policies, both in the agricultural sector and beyond, play a critical role in stabilizing or exacerbating food price volatility. Effective policy interventions are required to ensure a stable and affordable food market for all consumers, particularly in a developing economy like Nigeria.

4. Policy Recommendations

i. Enhancing Agricultural Productivity and Reducing Dependency on Imports: The government should prioritize increasing local food production by investing in modern farming technologies, improving access to fertilizers, seeds, and irrigation, and ensuring that farmers have access to affordable financing. This will help reduce the country’s

reliance on food imports and mitigate the impact of exchange rate fluctuations.

ii. Subsidies and Support for Smallholder Farmers: Agricultural subsidies should be restructured to support smallholder farmers, who play a significant role in domestic food production. Targeted policies could provide low-interest loans, subsidies on essential inputs, and training on sustainable agricultural practices.

iii. Strengthening the Currency and Exchange Rate Management: The Nigerian government and the Central Bank of Nigeria (CBN) should implement measures to stabilize the naira and reduce the volatility of exchange rates. This may include bolstering foreign reserves, diversifying export revenues, and implementing sound fiscal policies that reduce the nation's dependence on imports, especially food imports.

iv. Promoting Import Substitution: Policies aimed at reducing the importation of staple food items should be a priority. However, these policies must be backed by initiatives to boost local production capacity and mitigate the negative effects of exchange rate volatility on food prices.

v. Improved Infrastructure and Regional Connectivity: The government should focus on improving the infrastructure needed to connect rural areas with urban markets. Investment in transportation, storage facilities, and supply chain logistics will reduce food wastage and lower transport costs, thus reducing price discrepancies between regions.

vi. Addressing Psychological Factors and Market Behaviour: Public awareness campaigns could be launched to counteract irrational behaviours such as panic buying and hoarding. Information on current market conditions and future price projections could help consumers make more informed purchasing decisions.

vii. Regulating Media and Rumor Control: The government, in collaboration with media outlets, should manage and control the spread of misinformation regarding food shortages or price hikes. Ensuring that the public has accurate, reliable information will reduce the likelihood of panic-driven market behaviors.

viii. Enhanced Monitoring of Regional Food Pricing: A nationwide food pricing monitoring system should be established to track price trends across regions and identify areas experiencing price hikes. This data will be crucial for policymakers to target interventions where they are most needed, particularly in regions facing high insecurity or infrastructure challenges.

By adopting these policy recommendations, the Nigerian government can foster a more stable food pricing environment, reduce food insecurity, and improve the overall economic well-being of its citizens.

5. References

1. Abimbola J. 6 factors responsible for high cost of food items in Nigeria and recommendations. InfoGuide Nigeria, September 4, 2022. Retrieved September 4, 2022, from: <https://infoguidenigeria.com>
2. Adetiloye KA. Exchange rates and the consumer price index in Nigeria: A causality, 2010.
3. Akanni K. Agricultural price policy, consumer demand and implications for household food security in Nigeria. *International Journal of Food and Agricultural Economics*. 2002; 2:121-132.
4. Akanni KA. Agricultural price policy, consumer demand and implications for household food security. *International Journal of Food and Agricultural Economics*. 2013; 2(1):121-132.
5. Akintunde OK, Yusuf SA, Bolarinwa AO, Ibe RB. Price formation and transmission of staple foodstuffs in Osun State, Nigeria. *Journal of Agricultural and Biological Science*. 2012; 7(9):699-708. Doi: <https://doi.org/10.11648/j.ajaf.20140203.13>
6. Akpan SB, Patrick IV, Edet GE, John DE. Analysis of price transmission of fresh tomato and pineapple in the rural and urban markets of Akwa Ibom, Nigeria. *American Journal of Agriculture and Forestry*. 2014; 2(3):66-78. Doi: <https://doi.org/10.11648/j.ajaf.20140203.13>
7. Ambachew A, Shumetie A, Mohammed J, Leake M. Dynamics of food price inflation in Eastern Ethiopia: A meso-macro modeling. *Ethiopian Journal of Economics*. 2012; 21(2):1-32.
8. Kehinde Adekunle Adetiloye. Exchange rates and the consumer price index in Nigeria: A causality approach. *Journal of Emerging Trends in Economics and Management Sciences*. 2010; 1(2):114-120.
9. Banerjee AV, Duflo E. The economic lives of the poor. *Journal of Economic Perspectives*. 2007; 21:141-168.
10. Bellemare MF, Lee YN, Just DR. Producer attitudes toward output price risk: Experimental evidence from the lab and from the field. *American Journal of Agricultural Economics*. 2020; 102(3):806-825. Doi: <https://doi.org/10.1002/ajae.12004>
11. Bolaji A. Transportation costs fueling high prices of food. *The Guardian*, August 8, 2022. Retrieved September 4, 2022, from: <https://guardian.ng>
12. Dou WW, Goldstein I, Ji Y. AI-powered trading, algorithmic collusion, and price efficiency. Jacobs Levy Equity Management Center for Quantitative Financial Research Paper, The Wharton School Research Paper, 2024. Available at SSRN: <https://ssrn.com/abstract=4452704> or <http://dx.doi.org/10.2139/ssrn.4452704>
13. Echebiri UV, Abode JO, Andrew AE, Onaghise IA, Amolo OB. Impact of persistent rise in food prices on the Nigerian economy. *International Journal of Business and Management Review*. 2022; 10(8):21-29.
14. Egwuma H, Ojeleye OA, Adeola SS. What determines food price inflation? Evidence from Nigeria. *FUOYE Journal of Agriculture and Human Ecology*. 2017; 1(2):48-61.
15. Ekunwe PA, Emokaro CO, Ihenyen O, Oyedeji JO, Alufohai GO. An analysis of egg marketing in Benin City, Edo State, Nigeria. In J. C. Umeh, C. P. Obinne, & W. Lawal (Eds.), *Farm Management Association of Nigeria (FMAN) 22nd Annual National Conference Proceedings* (pp. 331–337). Markurdi, 2008.
16. Ezeanyejiji CI, Ugochukwu FE. Inflation and economic growth in Nigeria: An impact analysis. *Continental Journal of Social Sciences*. 2015; 8(1):22-33.
17. FAO. The state of food security and nutrition in the world 2021, 2022. Retrieved September 20, 2022, from: <https://www.fao.org/state-of-food-security-nutrition/2021/en/>
18. Financial Times. UK inflation climbs to 1.9% on rising food prices, 2019. Retrieved September 4, 2019, from: <https://www.ft.com/>

19. Food and Agriculture Organization. FAOSTAT database of the Food and Agriculture Organization of the United Nations, 2018. Retrieved November 2020 from: <http://www.fao.org/faostat/en/>
20. GROWAFRICA. Strengthening opportunity in the tomato value chain in Nigeria, 2018. Retrieved April 21, 2019, from: <https://www.growafrica.com/news/strengthening-opportunities-tomato-value-chain-nigeria>
21. Hasan AN, Mashi M. Determinants of food price inflation: Evidence from Malaysia based on linear and nonlinear ARDL. MPRA Paper No. 91517, 2018. Retrieved September 5, 2019, from: <https://mpra.ub.uni-muenchen.de/91517/>
22. Idisi O, Odojoma P, Fidelis E. Causes and drivers of inflation in Nigeria: A comprehensive review. *World Journal of Advanced Research and Reviews*. 2023; 19:779-788. Doi: <https://doi.org/10.30574/wjarr.2023.19.1.1376>
23. International Monetary Fund. IMF Glossary, 2023.
24. Kufel J. Monopolistic markups in the Polish food sector. *Equilibrium: Quarterly Journal of Economics and Economic Policy*. 2017; 12(1):147-170.
25. Lemchi JI. The marketing system for cassava in Nigeria [Unpublished doctoral dissertation]. Department of Agricultural Economics & Extension, Federal University of Technology, Owerri, Nigeria, 1999.
26. Mafimisebi TE. Spatial equilibrium, market integration and price exogeneity in dry fish marketing in Nigeria: A vector auto-regressive (VAR) approach. *Journal of Economics, Finance and Administrative Sciences*. 2012; 17(33):31-37.
27. Mankiw NG. *Principles of microeconomics* (7th ed.). Cengage Learning, 2014.
28. Mbah CC, Orjime SM, Mgbemena EM. Agricultural productivity, food prices, and inflation in Nigeria. *Journal of Management, Economics, and Industrial Organization*. 2022; 6(3):113-126. Doi: <https://doi.org/10.31039/jomeino.2022.6.3.8>
29. Moshood OO, Momoh S. Food price differences and market integration in Oyo State, Nigeria. *International Journal of Agricultural Research*. 2007; 2:69-74.
30. Mukaila R, Obetta AE, Awoyelu FE, Chiemela CJ, Ugwu AO. Marketing analysis of vegetables: The case of carrot and cucumber marketing in Enugu State, Nigeria. *Turkish Journal of Agriculture - Food Science and Technology*. 2021; 9(2):346-351. Doi: <https://doi.org/10.24925/turjaf.v9i2.346-351.4000>
31. Muth JF. Rational expectations and the theory of price movements. *Econometrica*. 1961; 29(3):315-335.
32. National Bureau of Statistics. Selected food prices watch (June 2024), 2024. <https://www.nigerianstat.gov.ng/elibrary/read/1241536>
33. Nerlove M. Estimates of the elasticities of supply of selected agricultural commodities. *Journal of Farm Economics*. 1956; 38(2):496-509.
34. NISER. The global food crisis: Impact and policy implications in Nigeria. Final research report. Nigerian Institute of Social and Economic Research (NISER), submitted to the National Fadama Office, Abuja, 2009.
35. Nwokoji N, Aremu F, Otemade A. Reasons behind rising cost of food items. *Tribune*, 2021. Retrieved September 4, 2022, from: <https://tribuneonlineng.com>
36. Obi KO, Oniore JO, Nnadi KU. The impact of exchange rate regimes on economic growth in Nigeria. *Journal of Economics and Sustainable Development*. 2016; 7(12):115-127.
37. Oge U. Why food prices are high in Nigeria and what we're doing about it – minister. *Premium Times*, August 4, 2022. Retrieved September 4, 2022, from: <https://www.premiumtimesng.com>
38. Okuneye PA, Aromolaran AB, Adetunji MT, Arowolo TA, Adebayo K, Ayinde IA. Environmental impacts of trade liberalization: The case of Nigeria's cocoa sub-sector. Paper presented at the 42nd Annual Conference of the Nigerian Economic Society, University of Port Harcourt, Nigeria, August 28-31, 2001.
39. Olomola AS. The political economy of food price policy in Nigeria (WIDER Working Paper No. 2013/016, February). UNU World Institute for Development Economics Research (UNU-WIDER), Helsinki, Finland, 2013.
40. Olukosi JO, Isitor SU, Ode MO. Introduction to agricultural marketing and prices: Principles and application (3rd ed., pp. 26–42). G.M. Publisher, 2007.
41. Onwusiribe NC, Nto PO, Oteh OU, Agwu NM. Dynamics of food price volatility and households' welfare in Nigeria: Implications for post-COVID-19 recovery. *International Journal of Energy Economics and Policy*. 2020; 6(1):100-124.
42. Picodi. Nigerian spends over half of their earnings on food, 2023. Retrieved October 16, 2023, from: <https://www.picodi.com>
43. Qayyum A, Sultana B. Factors of food inflation: Evidence from time series of Pakistan. *Journal of Banking and Finance Management*. 2018; 1(2):23-30.
44. Rehman FU, Khan D. The determinants of food price inflation in Pakistan: An econometric analysis. *Advances in Economics and Business*. 2015; 3(12):571-576.
45. Seale JL, Shonkwiler JS. Rationality, price risk, and response. *Southern Journal of Agricultural Economics*. 1987; 19(1):111-118.
46. Shehu E-R, Abdullahi BM, Mustapha A. Inflation dynamics and food prices in Nigeria. *Gusau International Journal of Management and Social Sciences*. 2023; 6(3):237-255. Doi: <https://doi.org/10.57233/gijmss.v6i3.13>
47. Tomek WG, Kaiser HM. *Agricultural product prices* (5th ed.). Cornell University Press, 2014.
48. Udoh NS, Anietie SI. A predictive model for inflation in Nigeria. *CBN Journal of Applied Statistics*. 2018; 9(2):103-129.
49. Waugh FV. Cobweb models. *Journal of Farm Economics*. 1964; 46(4):732-750.
50. World Bank. Food price increases in South Asia, national responses and regional dimensions. The International Bank for Reconstruction and Development, Washington, 2020.
51. World Bank. Global database of inflation, 2022.
52. Yelwa M, Okoroafor OK, Awe E. Analysis of the relationship between inflation, unemployment, and economic growth in Nigeria: 1987–2012. *Applied Economics and Finance*. 2015; 2(3):102-109.
53. Zhang C, Meng C, Getz L. Food prices and inflation dynamics in China. *China Agricultural Economic Review*. 2014; 6(3):395-412.