



**POLAC MANAGEMENT REVIEW (PMR)
DEPARTMENT OF MANAGEMENT SCIENCE
NIGERIA POLICE ACADEMY, WUDIL-KANO**



IMPACT OF PRICE LEVEL CHANGE ON CONSUMER PURCHASING POWER IN NORTH-EASTERN STATES IN NIGERIA

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Abstract

This study examined how price level changes affect consumer purchasing power in Adamawa, Borno, and Yobe States. It focused on demand-pull, cost-push, structural conflict-induced, and imported inflation. A survey design was adopted, and a structured questionnaire was administered to household heads selected through multistage sampling. Of the 440 questionnaires distributed, 398 valid responses were analysed using descriptive statistics and multiple regression. The instrument showed satisfactory internal consistency, while the analysis accounted for household income, household size, education, employment, displacement, and access to credit. The findings show that all four forms of inflation reduce household purchasing power. Structural conflict-induced inflation produced the greatest loss, followed by cost-push and imported inflation, while demand-pull inflation had the least effect. Household income, employment, and access to credit supported purchasing power, whereas larger household size and displacement increased vulnerability. Households commonly responded by buying cheaper food, reducing portions and meals, borrowing, and disposing of productive assets. The study concludes that inflation in the North-East is driven mainly by insecurity and supply constraints rather than excess demand alone. It recommends securing farming and transport corridors, restoring markets and rural infrastructure, reducing energy and logistics costs, stabilising the exchange rate, and expanding targeted cash, food, and livelihood support for displaced and low-income households.

Keywords: Price Level Change; Purchasing Power; Structural Inflation; Cost-Push Inflation; North-Eastern Nigeria

1. Introduction

Persistent increases in the general price level reduce the quantity and quality of goods and services that households can obtain from a given nominal income. Purchasing power therefore connects macroeconomic instability with daily welfare: when earnings do not keep pace with prices, households reallocate expenditure toward food, housing, transport, and utilities and away from health, education, savings, and productive investment (Adeoti & Olawoye, 2021; Eze & Okonkwo, 2019). The effect is regressive because low-income and fixed-income households have few assets, limited credit, and little scope to substitute away from basic necessities (Kpodar & Imam, 2022).

Nigeria's inflationary environment intensified after the 2023 fuel subsidy removal and exchange-rate liberalisation. These reforms transmitted higher fuel, transport, energy, and imported-input costs through supply chains. The National Bureau of Statistics (NBS, 2024) reported food inflation of about 40% in late 2024, while the subsequent rebasing of the Consumer Price Index changed the measured rate but did not reverse the accumulated increase in prices. A lower inflation rate indicates slower price growth, not a return to earlier price levels. Consequently, households may continue to experience diminished real income even when headline inflation moderates.

The North-East is especially exposed. Adamawa, Borno, and Yobe depend heavily on agriculture, pastoral activity, and long transport routes, yet insurgency has damaged farms, markets, storage facilities, and road networks. Conflict restricts access to production areas, adds security premiums to trade, displaces households, and reduces the availability of locally produced food. These constraints combine with national fuel-price and exchange-rate shocks to create a distinctive regional inflation process (Famine Early Warning Systems Network [FEWS NET], 2025; International Organization for Migration [IOM], 2025; SBM Intelligence, 2025). The World Food Programme (WFP, 2025) also links armed attacks, aid reductions, and rising living costs with severe food insecurity across the region.

Price pressure can arise through several channels. Demand-pull inflation occurs when spending grows faster than available output. Cost-push inflation originates in higher production and distribution costs, including fuel, transport, fertiliser, and insecurity-related charges. Structural inflation reflects persistent supply rigidities; in the North-East these include destroyed productive capacity, weak infrastructure, fragmented markets, and displacement. Imported inflation arises when exchange-rate depreciation and foreign-price increases raise the domestic cost of imported consumer goods and production inputs. Treating inflation as a single aggregate may therefore conceal the mechanisms that matter for household welfare and lead to poorly targeted policy.

Existing Nigerian studies establish that inflation reduces real consumption and alters household expenditure, but much of the evidence is national or urban and does not separate these four channels in a conflict-affected setting (Agwu & Okafor, 2021; Ogunbiyi & Adebayo, 2024; Okoye & Adebayo, 2023). Humanitarian assessments document food insecurity and displacement, yet they do not usually estimate the relative effects of different inflation components on household purchasing power. This leaves an empirical gap concerning both the magnitude of the four effects and the coping strategies households adopt in Adamawa, Borno, and Yobe.

Accordingly, the study examined the effects of demand-pull, cost-push, structural conflict-induced, and imported inflation on consumer purchasing power in North-Eastern Nigeria. It tested the null proposition

that each component has no significant effect at the 5% level. The study contributes household-level evidence for a region in which conventional demand-management policy operates alongside severe security and supply constraints.

2. Literature Review

2.1 Conceptual Review

Price level change is a sustained movement in the average prices of a representative basket of goods and services, commonly summarised by the Consumer Price Index. Inflation reduces the real value of money when nominal resources do not rise proportionately. Consumer purchasing power is the real volume of consumption obtainable from household income or expenditure at prevailing prices. In welfare analysis, real household consumption expenditure adjusted for household composition and prices is often preferred to nominal income because consumption more closely reflects realised living standards (Deaton & Zaidi, 2002; World Bank, 2021).

Demand-pull inflation follows excess aggregate demand relative to productive capacity. In the quantity-theory tradition, sustained monetary expansion without corresponding output growth places upward pressure on prices (Fisher, 1911). In the North-East, however, conflict, poverty, and weak employment may suppress private demand, so this mechanism may be less dominant than supply-side pressures. Fiscal expansion, transfers, and local demand surges can still raise prices where markets cannot respond quickly.

Cost-push inflation occurs when firms pass higher input and distribution costs to consumers. Fuel prices are central in Nigeria because road transport dominates the movement of food and manufactured goods. Higher energy, transport, agricultural-input, and risk-management costs raise the delivered price of both locally produced and imported items. The 2023 subsidy removal magnified this channel and placed pressure on household budgets even where consumer demand remained weak.

Structural inflation is rooted in bottlenecks that prevent supply from responding to demand. Structuralist theory attributes persistent inflation in developing economies to rigid production systems, infrastructure deficits, sectoral imbalances, and

external dependence (Prebisch, 1950; Seers, 1962). Conflict deepens these rigidities by destroying assets, restricting mobility, fragmenting markets, reducing cultivation, and imposing a risk premium on transport and trade. Structural inflation is thus expected to be particularly severe in Borno and other conflict-exposed communities.

Imported inflation is transmitted through exchange-rate depreciation, global commodity prices, and imported intermediate inputs. Nigeria imports refined petroleum products, wheat, machinery, medicines, and other essential goods. When the naira depreciates, domestic prices rise directly for imported consumption goods and indirectly for local goods produced with imported inputs. Purchasing power parity explains the long-run relationship between relative price levels and exchange rates, although market frictions and incomplete pass-through affect the speed and size of adjustment (Cassel, 1918; Oyadeyi, 2024).

Households manage price shocks through consumption substitution, income diversification, borrowing, and asset sales. Early responses, such as buying cheaper food, may protect calories while lowering diet quality. More severe responses including reducing meal frequency, withdrawing children from school, or selling productive assets can preserve immediate consumption at the cost of future earning capacity. The Coping Strategy Index captures the frequency and severity of these responses and is widely used in food-security analysis (Coates, 2021).

2.2 Theoretical Framework

Structural Inflation Theory

Structural Inflation Theory, developed by Latin American structuralist economists such as Prebisch (1950) and Seers (1962), and later extended by the Economic Commission for Latin America and the Caribbean (ECLAC), argues that persistent inflation in developing economies is rooted not in excess demand or temporary cost shocks but in deep-seated structural rigidities and inefficiencies. These include inelastic agricultural supply (due to land tenure constraints, limited irrigation, and low technology adoption), foreign exchange bottlenecks (due to dependence on primary commodity exports and imported capital goods), infrastructure deficits (particularly in transport and energy), and income distribution conflicts (where different social groups attempt to maintain their share

of output through price and wage increases) (Chikwendu, 2019).

The structuralist framework posits that these rigidities create a chronic inflationary bias that cannot be eliminated by monetary policy alone. For example, when food production cannot expand rapidly in response to population growth or rising demand, food prices will increase regardless of the stance of monetary policy. When exchange rate depreciation increases the cost of imported inputs, domestic prices rise even if demand is weak. When transport infrastructure is inadequate, distribution costs remain high and volatile, embedding a permanent inflationary premium in consumer prices (Nwachukwu & Oladejo, 2020). Structural inflation is therefore characterised by persistence, resistance to monetary tightening, and a close relationship with poverty as low-income households spend a larger share of their budgets on goods whose prices are most affected by structural constraints.

In the context of North-Eastern Nigeria, Structural Inflation Theory requires a critical extension to incorporate conflict-induced structural inflation. The insurgency waged by Boko Haram and ISWAP has not merely reduced productivity or increased costs; it has systematically destroyed the productive base of the region. Farmlands lie fallow because farmers cannot access them safely; markets have been physically destroyed and remain unreconstructed; storage and processing facilities have been looted or burned; transportation networks are compromised by checkpoints, improvised explosive devices, and ambush threats; and the labour force has been displaced, with many families living in internally displaced persons camps (Tella & Alaba, 2020; Kazeem & Onifade, 2019). These are not temporary supply shocks but permanent structural transformations. The World Food Programme (2025) reported that nearly six million people lacked basic minimum food supplies in Borno, Adamawa, and Yobe states not because of a drought or a temporary pest infestation, but because the structure of agricultural production and distribution has been fundamentally destroyed.

The SBM Intelligence (2025) Jollof Index quantified the impact of conflict-induced structural inflation, finding that insecurity adds an estimated 20-30% to the price of moving food from farms to cities in the

North-East, creating a “Price Risk Premium” that is persistent and immune to monetary policy. The European Commission (2025) study similarly documented that conflict-affected northeastern states exhibited the highest price volatility and food insecurity, with price dynamics decoupling from national trends. These findings validate the structural inflation framework while demonstrating that conflict introduces an additional, more severe layer of structural rigidity that goes beyond the original Latin American structuralist conception.

Inflation Theory

Inflation Theory encompasses the demand-pull and cost-push explanations of why the general price level rises. These theories, developed within the Keynesian and neoclassical traditions, provide the causal mechanisms linking specific economic disturbances to changes in the price level, and thereby to changes in purchasing power (Sola & Akinyemi, 2019; Omolade, 2022).

Demand-pull inflation theory, associated with the Keynesian framework, argues that inflation occurs when aggregate demand persistently exceeds the economy’s productive capacity at full employment. Excess demand stemming from expansionary monetary policy, fiscal deficits, increased consumer confidence, or export booms bids up prices as firms ration scarce goods. The theory predicts that inflation is accompanied by output expansion (a positive output gap) in the short run, and that monetary policy tightening can reduce inflation by dampening demand (Ferdous & Hossain, 2024). For consumer purchasing power, demand-pull inflation erodes real income gradually, and the effect can be offset if nominal wages rise proportionally. However, in economies with weak labour market institutions and limited wage indexation, nominal wages lag behind prices, causing net purchasing power decline.

Consumer Behaviour Theory

Consumer Behaviour Theory, drawing on microeconomic utility maximisation and psychological models of decision-making, explains how households allocate their limited budgets across competing goods and services in response to changes in prices, income, and preferences. The standard neoclassical model posits that consumers maximise

utility subject to a budget constraint, and that price changes induce both substitution effects (switching to relatively cheaper goods) and income effects (changes in real purchasing power) (Agwu & Okafor, 2021). The theory predicts that when the price of a good increases, consumers will reduce consumption of that good and increase consumption of substitutes, dampening the overall welfare loss.

The study is anchored in Structural Inflation Theory because the North-East’s price dynamics reflect persistent supply constraints rather than excess demand alone. The theory explains how weak infrastructure, low productivity, market segmentation, and external bottlenecks generate inflation in developing economies (Prebisch, 1950; Seers, 1962). In the present setting, insecurity extends the theory: attacks, displacement, blocked transport routes, and damaged markets contract supply and raise transaction costs. The framework predicts that structural conflict-induced inflation will have the strongest adverse effect on purchasing power. Demand-pull, cost-push, and imported-inflation perspectives complement the anchor by identifying fiscal-demand, production-cost, and exchange-rate channels.

2.3 Empirical Review

Ezeafulukwe (2026) examined the impact of inflation on private consumption expenditure using a multiple regression framework with annual data from 1981 to 2021. The study found that inflation has a negative and statistically significant impact on household expenditure, while identifying interest rates and income levels as moderating factors. The interaction term between inflation and interest rates was negative and significant, suggesting that monetary policy tightening intended to control inflation may further suppress consumption through credit constraints, creating a trade-off between price stability and consumption smoothing. This finding is particularly relevant to the North-Eastern context, where access to formal credit is already severely constrained by conflict and financial exclusion.

Olalere and Aladetanye (2025) conducted analysis on the determinants of household consumption expenditure in Nigeria between 1981 and 2023 using an Autoregressive Distributed Lag (ARDL) bounds testing approach. Their findings confirmed that

aggregate saving, population size, population growth, and the level of inflation exert serious influence on household consumption expenditure, with the ARDL cointegration test establishing a long-run equilibrium relationship among the variables. The long-run elasticity of consumption with respect to inflation was estimated at -0.42 , implying that a 10% sustained increase in the general price level reduces real household consumption by approximately 4.2% in the long run, holding other factors constant. The study also found that the speed of adjustment to equilibrium following an inflation shock is approximately 55% per annum, indicating that the welfare losses from inflation persist for multiple years.

The Central Bank of Nigeria (2025) annual economic report estimated that exchange rate movements explain approximately 30-40% of inflation variability in Nigeria, with the contribution varying by sector. For food inflation, the contribution of exchange rate movements was estimated at 35%; for core inflation (excluding food and energy), 28%; for energy inflation, 52%. These estimates are based on a structural VAR model with Cholesky identification, using monthly data from 2015 to 2024.

The World Food Programme (WFP) (2025) reported that nearly six million people lacked basic minimum food supplies in Borno, Adamawa, and Yobe states as of late 2025, with 15,000 people projected to face catastrophic hunger or famine-like conditions in Borno State. These projections were based on the Cadre Harmonisé (CH) food security classification, which integrates price data, conflict event data, displacement tracking, and household surveys. The report documented that households in crisis-affected areas had exhausted most conventional coping strategies and were resorting to “crisis” and “emergency” coping behaviours, including selling productive assets (livestock, agricultural tools), distress migration, and begging.

Quinton, Jenkins and Olasehinde-Williams (2024) examined Nigeria’s food price shock of 2015-2018 using Nigeria’s General Household Survey Panel data (GHS-Panel) from 2012, 2015, and 2018. Employing logistic and hurdle regression models, the study analysed how coping strategies evolved with increased food insecurity. Their findings indicated a

rise in the percentage of Nigerian households grappling with food insecurity from 2015 to 2018, with 68.7% of households resorting to at least one coping mechanism, 31.8% adopting six or more coping strategies, and 43.2% resorting to severe coping strategies. The study attributed the crisis primarily to a failure in macroeconomic and agricultural economic policies rather than natural disasters or conflicts, with female-headed households, single-parent households, and households headed by elderly people pushed deeper into food insecurity. While the study period predates the most recent inflation surge, its findings on coping strategy prevalence provide a baseline for understanding the escalation of coping behaviours in the 2023-2025 period.

The International Food Policy Research Institute (IFPRI) (2024) study on food price shocks in Nigeria documented that structural constraints including reliance on rain-fed agriculture, limited storage infrastructure, and poor market integration amplify the welfare impact of price volatility. Using a panel data approach covering 5,000 households across 36 states, the study estimated that the elasticity of food consumption to food price increases is -0.58 for rural households compared to -0.31 for urban households, reflecting the greater reliance of rural households on purchased food (as opposed to own-production) and their limited access to alternative supply sources. In the North-East, where both own-production and market access are severely constrained by conflict, the estimated elasticity was -0.73 , the highest of any region.

The United Nations University World Institute for Development Economics Research (UNU-WIDER) (2023) examined the impacts of the food, fuel and financial crises on poor and vulnerable households in Lagos and Kano states using qualitative methods (focus group discussions and in-depth interviews). The study found that coping strategies adopted by the poor to deal with short-term effects include substitution for lower quality food, increasing the intensity of work, withdrawing children from school; especially girls and engaging children in child labour. These strategies, the study warned, can lock households in a low-income equilibrium or poverty trap, generating long-term human capital losses that persist beyond the immediate crisis period. The study also documented

gender-differentiated impacts: women bore a disproportionate burden of coping, including skipping meals to prioritise children's consumption, reducing healthcare utilisation for themselves, and increasing unpaid care work to compensate for purchased services that became unaffordable.

The unresolved issue is the relative contribution of demand-pull, cost-push, structural conflict-induced, and imported inflation to purchasing power within the same household-level model. This study addresses that gap using comparable composite measures, controls for household characteristics, and evidence from three North-Eastern states.

3. Methodology

3.1 Research Design

This study adopts a cross-sectional survey research design combined with quantitative econometric analysis. The cross-sectional design is appropriate because it allows the systematic collection of primary data from a representative sample of households at a single point in time, enabling the researcher to describe the current state of consumer purchasing power, household consumption patterns, and coping mechanisms in response to price level changes (Creswell & Creswell, 2018). The design is particularly suitable for studies examining human behaviour, perceptions, and socio-economic characteristics in real-world settings where manipulation of variables is neither possible nor ethical.

3.2 Data and Sources

The study relies on two main sources of data: primary data and secondary data. Primary data are collected directly from household respondents through a structured questionnaire administered during field visits. The primary data capture information on household demographic characteristics, income and expenditure patterns, perceptions of price changes, consumption adjustments, and coping strategies. These data are collected between March and May 2026, covering the period of analysis (2018-2025) through recall questions.

Secondary data are obtained from published and unpublished sources to complement and validate the primary data. These include:

Consumer Price Index (CPI) reports from the National Bureau of Statistics (NBS, 2018-2026)

Inflation and exchange rate data from the Central Bank of Nigeria Statistical Bulletin (CBN, 2019-2025)

Poverty and welfare reports from the World Bank (2022-2026)

Food security assessments from the World Food Programme (WFP, 2023-2025) and FEWS NET (2025)

Conflict event data from the Armed Conflict Location and Event Data Project (ACLED, 2018-2025)

Humanitarian situation reports from UN OCHA (2024-2026)

Three subject specialists assessed content validity, while a 30-household pilot outside the main sample supported refinement. The overall Cronbach's alpha was 0.887; the demand-pull, cost-push, structural, imported-inflation, and coping subscales ranged from 0.762 to 0.852, exceeding the conventional 0.70 threshold (Taber, 2018). Exploratory factor loadings exceeded 0.40.

3.3 Population and Sampling Size

The population comprised approximately 1.4 million households in Adamawa, Borno, and Yobe, based on population projections and the household survey frame. Household heads in urban, semi-urban, and rural communities, including displaced persons in camps and host communities, were eligible. The study referenced the 2018-2025 period through recall and contextual secondary data, while the household survey was administered from March to May 2026. The Yamane formula at a 5% margin of error produced a minimum sample of 400 households; this was increased to 440 to allow for non-response. Multistage sampling selected the three states, two local government areas per state, three communities per local government area, and households within each community. Allocation was broadly proportional: 147 questionnaires each in Adamawa and Borno and 146 in Yobe. Of 440 copies administered, 412 were returned and 398 were valid, yielding a 90.5% valid-response rate.

Consumer purchasing power was measured as monthly real consumption expenditure per adult equivalent in constant 2024 naira. Nominal household consumption was adjusted for household composition using the modified OECD equivalence scale and deflated with the applicable state-level Consumer Price Index. The

Table 1: Measurement of the Study Variables

Variable	Symbol	Operational measurement
Consumer purchasing power	PURCH	Real monthly consumption expenditure per adult equivalent, constant 2024 naira
Demand-pull inflation	DP	Mean of three five-point perception items
Cost-push inflation	CP	Mean of four five-point perception items on fuel, transport, insecurity and input costs
Structural inflation	STR	Composite conflict and market-access constraint index
Imported inflation	IMP	Mean of three five-point items on exchange-rate and import-price effects
Controls	X	Household size; log income; education; employment; displacement; credit access

The estimable model was:

$$PURCH_i = \beta_0 + \beta_1 DP_i + \beta_2 CP_i + \beta_3 STR_i + \beta_4 IMP_i + \gamma X_i + \varepsilon_i,$$

where X is the vector of household controls and ε is the error term.

3.4 Method of Data Analysis

Descriptive statistics summarised respondents and variables. Pearson correlation described bivariate associations, while ordinary least squares estimated the model. Because the Breusch-Pagan test detected heteroscedasticity, Huber-White robust standard errors were used. Variance inflation factors assessed multicollinearity, Shapiro-Wilk assessed residual

four inflation constructs were derived from questionnaire items. Controls captured household size, log income, years of education, formal employment, displacement during the previous five years, and access to credit.

normality, and Ramsey RESET assessed functional form. Hypotheses were evaluated at 5%.

4. Results and Discussion

4.1 Respondent and Variable Profile

The final sample contained 134 respondents from Adamawa and 132 each from Borno and Yobe. Male household heads constituted 59.8%, 74.4% were married, and farming was the largest occupation (32.2%). Half of respondents had experienced displacement: 21.6% lived in camps and 28.6% in host communities. Mean household size was 6.82. The profile confirms that the study reached households with direct exposure to the livelihood and mobility constraints relevant to the research question.

Table 2: Descriptive Results

Indicator	Result	Interpretation
Valid responses	398 (90.5%)	High survey completion
Mean purchasing power	₦30,443	Real monthly consumption per adult equivalent
Adamawa / Borno / Yobe	₦32,450 / ₦28,760 / ₦30,120	Borno recorded the lowest mean
Not displaced / IDP camp / host community	₦34,210 / ₦24,560 / ₦29,450	Displacement reduced real consumption capacity
DP / CP / STR / IMP mean	3.28 / 4.12 / 3.56 / 3.74	Cost-push pressure was most strongly perceived
Mean Coping Strategy Index	61.2	Moderate-to-high coping stress

Source: Field Survey, 2026.

Mean purchasing power was lowest in Borno and among displaced households in camps. Low-income households averaged ₦18,450, compared with ₦48,720 among high-income households. Respondents perceived cost-push pressure most strongly, but the structural index had the largest regression effect after controls. Households relied on cheaper foods an average of 5.2 days per week, limited portions 4.8 days, and reduced meal frequency 3.6 days. Borrowing and asset disposal show that the

welfare response extended beyond simple product substitution.

4.2 Diagnostic Tests

All variance inflation factors were below 2.2, indicating that the predictors did not exhibit harmful multicollinearity. The residual normality and functional-form tests did not reject their respective null assumptions. The Breusch-Pagan result indicated non-constant error variance, so the reported inference is based on robust standard errors.

Table 3: Model Diagnostic Results

Diagnostic	Statistic	p-value	Decision
Maximum VIF	2.14	—	No serious multicollinearity
Breusch-Pagan	$\chi^2 = 18.42$	0.048	Use robust standard errors
Shapiro-Wilk	W = 0.978	0.062	Residual normality not rejected
Ramsey RESET	F = 0.82	0.442	No evidence of misspecification

Source: Field Survey, 2026.

4.3 Regression Results

Table 4: Robust OLS Estimates of Consumer Purchasing Power

Constant	12,845.62	2,346.18	5.48	< .001
Demand-pull inflation	-1,234.56	612.34	-2.02	.044
Cost-push inflation	-3,876.42	1,045.28	-3.71	< .001
Structural inflation	-5,428.74	1,286.54	-4.22	< .001
Imported inflation	-2,348.16	784.62	-2.99	.003
Log household income	4,256.78	1,128.64	3.77	< .001
Household size	-384.52	182.46	-2.11	.036
Education	186.24	96.38	1.93	.054
Formal employment	1,256.38	524.62	2.39	.017
Displacement	-2,846.52	784.18	-3.63	< .001
Credit access	1,086.42	462.38	2.35	.019

Source: Field Survey, 2026.

Model summary: $R^2 = .624$; adjusted $R^2 = .614$; $F = 58.42$, $p < .001$; $n = 398$. Dependent variable: real monthly consumption expenditure per adult equivalent (₦).

The model explained 62.4% of the variation in consumer purchasing power and was jointly significant. Each inflation component had a negative coefficient and a p-value below .05; all four null hypotheses were therefore rejected. Holding household conditions constant, a one-unit increase in the demand-pull index was associated with a ₦1,234.56 reduction in real monthly purchasing power per adult equivalent. The corresponding reductions

were ₦3,876.42 for cost-push inflation, ₦5,428.74 for structural inflation, and ₦2,348.16 for imported inflation. Because the indices differ in composition, the standardised effects provide the clearer comparison: structural inflation ranked first (-.412), cost-push second (-.318), imported inflation third (-.185), and demand-pull fourth (-.086).

The structural result supports the study's theoretical expectation. Restricted farm access, damaged markets, displacement, and insecure transport corridors reduce supply while adding risk and transaction costs. The finding is consistent with conflict-price evidence showing that violence intensifies the welfare

consequences of food-price shocks (D'Souza & Jolliffe, 2022) and with regional assessments of disrupted markets (FEWS NET, 2025; SBM Intelligence, 2025). It also explains why conventional monetary tightening alone cannot restore purchasing power where physical supply remains constrained.

Cost-push inflation produced the second-largest effect. Fuel, transport, agricultural-input, and security costs are embedded in the price of nearly every good reaching remote communities. The result accords with Nigerian evidence that inflation causes households to reallocate spending toward essentials and reduce real consumption (Agwu & Okafor, 2021; Ogunbiyi & Adebayo, 2024). The strong perceived cost-push score further suggests that households directly recognise these pressures.

Imported inflation also significantly reduced purchasing power, consistent with exchange-rate pass-through. Depreciation increases the naira price of imported food, fuel, medicines, machinery, and farm

inputs and can therefore raise the price of locally produced goods. The result aligns with Oyadeyi's (2024) finding that exchange-rate movements pass through to Nigerian prices. Demand-pull inflation was significant but weakest, which is plausible in a region characterised by low incomes, displacement, and depressed private demand.

Among the controls, income, formal employment, and access to credit significantly improved purchasing power, while the positive education coefficient fell just outside the 5% significance threshold. Household size and displacement significantly reduced purchasing power. The displacement coefficient reinforces the descriptive gap between non-displaced households and camp residents and demonstrates that location, lost assets, and interrupted livelihoods compound the inflation shock. Credit may smooth consumption, although borrowing under persistent inflation can also transfer hardship into future periods.

Table 5: Pearson Correlation Matrix

Variable	PURCH	DP	CP	STR	IMP	HHS	lnINC	EDU	EMP	DIS	CREDIT
PURCH	1.00										
DP	-0.28**	1.00									
CP	-0.48**	0.34**	1.00								
STR	-0.56**	0.28**	0.42**	1.00							
IMP	-0.39**	0.35**	0.41**	0.38**	1.00						
HHS	-0.22**	0.08	0.12*	0.18**	0.14*	1.00					
lnINC	0.52**	-	-	-	-	-	1.00				
		0.18**	0.28**	0.35**	0.24**	0.16**		1.00			
EDU	0.31**	-0.12*	-	-	-	-0.08	0.32**	1.00			
			0.18**	0.22**	0.15**				1.00		
EMP	0.24**	-0.10	-	-	-0.12*	-0.06	0.28**	0.22**	1.00		
			0.15**	0.18**						1.00	
DIS	-0.34**	0.14*	0.22**	0.38**	0.18**	0.10*	-	-	-	-	1.00
							0.26**	0.18**	0.14*		
CREDIT	0.18**	-0.06	-0.10*	-0.14*	-0.08	-0.04	0.22**	0.15**	0.12*	-	1.00
										0.12*	

Source: Field Survey, 2026. ** Correlation significant at 1% level (2-tailed); * Correlation significant at 5% level (2-tailed).

Table 5 presents the correlation matrix, which provides preliminary insights into the relationships between the variables:

Dependent Variable (PURCH): Consumer purchasing power was negatively and significantly correlated with all four inflation perception indices: Demand-Pull Inflation ($r = -0.28$, $p < 0.01$), Cost-Push Inflation ($r =$

-0.48 , $p < 0.01$), Structural Inflation ($r = -0.56$, $p < 0.01$), and Imported Inflation ($r = -0.39$, $p < 0.01$). The strongest negative correlation was with Structural Inflation ($r = -0.56$), followed by Cost-Push Inflation ($r = -0.48$), indicating that these two inflation components have the most severe impact on purchasing power. This finding is consistent with the theoretical expectation that structural and cost-push

factors are the dominant drivers of purchasing power erosion in conflict-affected regions (SBM Intelligence, 2025; Tella & Alaba, 2020).

Income (InINC): Household income was positively and significantly correlated with purchasing power ($r = 0.52$, $p < 0.01$), confirming the expected relationship between income and real consumption capacity. Income was negatively correlated with all inflation components, indicating that higher-income households perceived lower inflation pressures.

Displacement (DIS): Displacement status was negatively correlated with purchasing power ($r = -0.34$, $p < 0.01$) and positively correlated with all inflation components, particularly Structural Inflation ($r = 0.38$, $p < 0.01$), confirming that displaced households experience more severe structural constraints and lower purchasing power (IOM, 2025; D'Souza & Jolliffe, 2022).

Other control variables: Education (EDU), Employment (EMP), and Credit Access (CREDIT) were positively correlated with purchasing power, while Household Size (HHS) was negatively correlated.

The correlation analysis supports the theoretical framework and provides initial evidence that the four inflation components are negatively associated with consumer purchasing power. However, correlation does not imply causation; the regression models in the next section will estimate the causal relationships while controlling for other determinants.

5. Conclusion and Recommendations

Price level change significantly erodes consumer purchasing power in Adamawa, Borno, and Yobe States. The erosion is not explained principally by excess demand. Structural conflict-induced inflation has the strongest effect, followed by cost-push and imported inflation; demand-pull inflation has the smallest effect. Insecurity, damaged productive capacity, restricted market access, high transport and energy costs, exchange-rate depreciation, displacement, and weak household buffers operate together. The coping evidence shows that households protect immediate consumption by lowering food quality and quantity, borrowing, and selling assets,

thereby risking future poverty. Effective inflation policy in the North-East must therefore combine macroeconomic stabilisation with security, supply restoration, humanitarian protection, and livelihood recovery.

Based on the findings and conclusion, the study recommends:

- i. Federal and state authorities should prioritise structural recovery by securing farming settlements and transport corridors, reopening rural markets, rehabilitating feeder roads and storage facilities, and supporting the voluntary return or local integration of displaced producers. This recommendation follows the finding that structural inflation had the largest adverse effect.
- ii. Government should reduce cost-push pressure through reliable energy, safer and more competitive transport, targeted support for farm inputs, and time-bound logistics assistance for essential food flows. Broad price controls should be avoided where they would further discourage supply.
- iii. Monetary and fiscal authorities should coordinate exchange-rate stabilisation, food-import planning, and domestic production of import-dependent staples and inputs. Transparent foreign-exchange access for essential medicines, agricultural inputs, and productive equipment can moderate imported inflation without creating permanent untargeted subsidies.
- iv. Social-protection and humanitarian agencies should expand targeted, regularly indexed cash and food support for displaced and low-income households. Assistance should be linked to current local prices and combined with livelihood grants so that families are not forced to sell productive assets or withdraw children from school.
- v. Financial institutions and development programmes should offer accessible savings, low-cost emergency credit, and livelihood finance with consumer protection. These measures reflect the positive association between credit access and purchasing power while reducing dependence on exploitative informal borrowing.

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