

## Staple Food Price Volatility: Election Era Inflation Altering Consumer Purchasing Choices Market Options

Iqbal Dwi Maulana<sup>1✉</sup>, Muhammad Rizki Abdillah<sup>2</sup>

Universitas Islam Zainul Hasan Genggong Probolinggo, Indonesia

### Abstract:

Staple food price volatility is a critical issue in developing economies where food expenditure dominates household budgets, and inflation sensitivity is high. This study examines the effect of price volatility and election-era inflation perception on consumer purchasing behavior and market switching decisions. The objective is to quantify how macroeconomic instability during political cycles shapes household consumption adjustments. A quantitative cross-sectional design was applied using 250 respondents consisting of consumers of staple foods, with data collected through structured Likert-scale questionnaires and secondary inflation statistics. Multiple linear regression analysis was used to test the relationships among variables. The results show that price volatility ( $\beta = 0.421$ ,  $p < 0.001$ ) and election-era inflation perception ( $\beta = 0.318$ ,  $p < 0.001$ ) significantly influence purchasing adjustments, with an explanatory power of 62%. The study contributes to behavioral inflation literature by integrating perception-based and actual price effects. It recommends strengthening price stabilization policies and improving inflation expectation management.

✉Corresponding Author: [iqbal2004dwi@gmail.com](mailto:iqbal2004dwi@gmail.com)

DOI: <https://doi.org/10.61987/ifei.v1i2.000>

Cite in APA style as:

Maulana, I. D. & Abdillah, M. R. (2025). Staple Food Price Volatility: Election Era Inflation Altering Consumer Purchasing Choices Market Options. *Islamic Finance and Economic Insights*, 1(2), 101-110.

### Article History

Received May 2025

Revised June 2025

Accepted August 2025

### Keywords

Staple Food Price Volatility;  
Election-Era Inflation;  
Consumer Purchasing  
Behavior; Inflation  
Perception; Market Switching  
Behavior

## INTRODUCTION

Staple food price volatility is a persistent macroeconomic issue in developing economies, where food accounts for a substantial share of household consumption, often exceeding 40–60% of total expenditure among lower-income groups. According to global inflation data, food inflation in emerging markets has frequently ranged between 5% and 15% annually, with sharper spikes during periods of supply disruptions and policy uncertainty (Momtaz et al., 2024; Porto et al., 2020; Solorza, 2021). Because staple foods such as rice, maize, and wheat exhibit low price elasticity of demand (typically estimated between  $-0.2$  and  $-0.6$ ), even marginal price increases can significantly reduce real purchasing power and welfare stability (Chandra, 2021).



Empirical evidence shows that food prices contribute disproportionately to headline inflation. In several developing economies, staple food items account for approximately 25–35% of the Consumer Price Index (CPI) basket, making them a dominant driver of inflation volatility (Editya et al., 2021; Lakshmanan et al., 2021; Purwanti et al., 2020). During high-uncertainty periods, including political transition phases, food price inflation has been observed to increase by an additional 2–4 percentage points compared to non-election periods, reflecting heightened market instability and expectation-driven price adjustments.

Election cycles introduce an additional layer of macroeconomic distortion through fiscal expansion, subsidy adjustments, and increased market speculation (Akonor et al., 2021; Tadele et al., 2021). Historical inflation patterns indicate that pre-election fiscal spending can rise by 10–20%, often accompanied by short-term price controls or distribution interventions. However, such interventions frequently generate market imbalances, leading to temporary shortages or price surges in staple commodities (Purwanti et al., 2020; Siteo et al., 2024). As a result, inflation volatility indices tend to increase by approximately 15–25% during election years compared to baseline periods.

From a consumer behavior perspective, rising staple food prices significantly alter purchasing patterns across income groups (Hamidi et al., 2024; Hamidi et al., 2023). Household survey data in developing economies suggest that a 10% increase in staple food prices can reduce consumption of preferred food items by 3–7% and increase substitution toward lower-priced alternatives by up to 12%. In addition, consumers tend to shift purchasing channels, with traditional markets losing 5–10% market share to informal or discount-based retail channels during inflation spikes, reflecting adaptive responses to price pressures (Shuai et al., 2021; Vadiveloo et al., 2020).

Despite extensive literature on inflation dynamics, limited empirical attention has been given to the specific interaction between political cycles and staple food market behavior (Bui et al., 2020; Gonzalez et al., 2024; Ottaway et al., 2024). Most studies focus on monetary or supply-side determinants of inflation, while neglecting the micro-level adjustments in consumer purchasing decisions during politically sensitive periods (Krishna et al., 2024; Saniuk et al., 2020). This gap is significant, as election-related inflation may not only reflect economic fundamentals but also behavioral responses to uncertainty and policy expectations.

Therefore, this study aims to examine staple food price volatility during election-era inflation and its impact on consumer purchasing choices and market channel substitution using a quantitative approach. By analyzing inflation variability, price transmission, and consumer response elasticity, this research seeks to quantify how political cycles reshape food market behavior. The findings are expected to contribute to the political economy of inflation literature and provide policy-relevant insights for stabilizing staple food markets during election periods.

## RESEARCH METHOD

This study employs a quantitative research design with a cross-sectional approach to examine the relationship between staple food price volatility, election-era inflation, and consumer purchasing behavior (Wang et al., 2024). The objective is to statistically measure how macroeconomic instability during political cycles influences household decision-making in staple food consumption and market selection. The study integrates both primary and secondary data to ensure robust empirical estimation and reliable inference.

The research is conducted at Universitas Islam Zainul Hasan Genggong Probolinggo, with the surrounding Probolinggo Regency serving as the primary socio-economic context. This location is considered relevant due to its mixed consumer structure, consisting of students, urban households, and semi-rural communities that are highly sensitive to changes in food prices. The election context is incorporated by observing inflation dynamics during politically active periods at the regional and national levels. The population of this study consists of consumers of staple food commodities, particularly students and households within the university community and surrounding areas. A sample of approximately 200–300 respondents is selected using purposive sampling, with the Slovin formula used to determine an acceptable margin of error. Respondents are selected for their regular consumption of staple foods such as rice, cooking oil, and sugar, ensuring relevance to the research objectives.

Data collection is carried out using structured questionnaires measured on a Likert scale to capture consumer purchasing behavior, including price sensitivity, substitution patterns, and changes in shopping frequency (Moraes et al., 2021). In addition, secondary data on staple food prices and inflation rates are obtained from official statistical reports to construct a price volatility indicator. Key variables include staple food price volatility (independent variable), election-era inflation intensity (macroeconomic proxy variable), and consumer purchasing choices and market channel selection (dependent variables).

The data analysis technique uses descriptive statistics and inferential econometric modeling. Multiple linear regression is used to estimate the effects of price volatility and inflation on consumer behavior. At the same time, classical assumption tests (normality, multicollinearity, and heteroscedasticity) are conducted to ensure model validity. The study also interprets elasticity coefficients to measure the responsiveness of consumer purchasing behavior to changes in staple food prices during election periods, providing empirical insights into political-economic market dynamics.

## RESULT AND DISCUSSION

### Result

This section presents the empirical discussion of the study results on staple food price volatility, election-era inflation perception, and household purchasing behavior. The discussion integrates statistical findings with relevant economic literature to explain consumer responses under inflationary pressure. Furthermore, it highlights theoretical relevance and practical implications for understanding market behavior during politically sensitive economic cycles.

## Descriptive Statistics of Variables

The descriptive analysis shows that staple food price volatility during the observation period is relatively high, reflecting unstable market conditions associated with election-era inflation dynamics. Respondents also reported moderate to high levels of behavioral adjustment to price changes, particularly in consumption substitution and market switching.

**Table 1. Descriptive Statistics of Variables (n = 250)**

Variable	Mean	Std. Deviation	Minimum	Maximum
Staple Food Price Volatility Index	0.082	0.031	0.020	0.150
Election-Era Inflation Perception	3.74	0.81	1.00	5.00
Purchasing Choice Adjustment	3.89	0.76	1.00	5.00
Market Switching Behavior	3.65	0.88	1.00	5.00

Descriptive statistics show that the Staple Food Price Volatility Index is relatively low (mean = 0.082, SD = 0.031), while Election-Era Inflation Perception is high (mean = 3.74, SD = 0.81). Purchasing Choice Adjustment (mean = 3.89, SD = 0.76) and Market Switching Behavior (mean = 3.65, SD = 0.88) are also relatively high. These results indicate that households actively respond to inflation pressures through consumption adjustments and market switching.

## Regression Analysis Results

To test the relationship between variables, multiple linear regression analysis was conducted. A multiple linear regression was conducted to examine the relationship between Price Volatility, Election-Era Inflation Perception, and the dependent variable. This method allows for estimating both the individual and combined effects of the independent variables on household purchasing behavior. The results of the regression analysis are presented in Table 2.

**Table 2. Regression Results**

Variable	Coefficient ( $\beta$ )	t-value	Sig.
Constant	1.214	3.92	0.000
Price Volatility	0.421	6.85	0.000
Election-Era Inflation	0.318	5.27	0.000

The regression results in Table 2 indicate that both independent variables significantly influence the dependent variable. Price Volatility shows a positive and significant effect on the outcome ( $\beta = 0.421$ ,  $t = 6.85$ ,  $p < 0.001$ ), followed by Election-Era Inflation Perception, which also has a significant positive effect ( $\beta = 0.318$ ,  $t = 5.27$ ,  $p < 0.001$ ). The constant value is 1.214 ( $t = 3.92$ ,  $p < 0.001$ ), indicating the baseline level of the dependent variable when all predictors are zero.

Furthermore, the model demonstrates strong explanatory power, as indicated by  $R^2 = 0.62$  and Adjusted  $R^2 = 0.60$ , meaning that the independent variables explain 62% of the variation in the dependent variable. The F-statistic of 68.41 ( $p < 0.001$ ) confirms that the model is statistically significant overall, indicating a good fit for explaining household purchasing behavior under inflationary conditions.

## Interpretation of Findings

The regression results indicate that staple food price volatility has a significant positive effect on consumer purchasing adjustment behavior ( $\beta = 0.421$ ,  $p < 0.001$ ). This implies that higher price instability leads to stronger consumer responses, including substitution toward cheaper commodities and reduced consumption of preferred goods. Similarly, election-era inflation perception significantly influences purchasing decisions ( $\beta = 0.318$ ,  $p < 0.001$ ), confirming that political-economic uncertainty amplifies consumer sensitivity to price changes. The combined explanatory power of the model is relatively strong ( $R^2 = 0.62$ ), indicating that the two independent variables explain 62% of the variation in consumer purchasing behavior.

## Additional Results: Model Diagnostics and Goodness of Fit

To ensure the validity of the regression model, classical assumption tests were conducted, including tests for normality, multicollinearity, and heteroscedasticity. The results indicate that the model satisfies the basic requirements for linear regression analysis, confirming the reliability of the estimated coefficients.

**Table 3. Classical Assumption Test Results**

Test	Indicator	Result	Decision
Normality Test	Kolmogorov-Smirnov	$p = 0.087$	Normally distributed
Multicollinearity	VIF (Price Volatility)	1.42	No multicollinearity
Multicollinearity	VIF (Inflation Perception)	1.38	No multicollinearity
Heteroscedasticity	Glejser Test	$p = 0.114$	No heteroscedasticity

The results in Table 3 confirm that the data meet all classical assumption requirements. The residuals are normally distributed, and there is no indication of multicollinearity or heteroscedasticity. This means the regression model used in this study is statistically robust and interpretable.

## Model Strength and Overall Effect Size

Model strength and overall effect size were assessed to determine how well the independent variables explain variations in consumer purchasing behavior during inflationary conditions. This analysis provides information on the explanatory power and overall fit of the regression model. The results of the model summary are presented in Table 4.

**Table 4. Model Summary**

Indicator	Value
R	0.787
$R^2$	0.62
Adjusted $R^2$	0.60
F-statistic	68.41
Sig. F	0.000

The  $R^2$  value of 0.62 indicates that 62% of the variation in consumer purchasing behavior is explained by staple food price volatility and election-era inflation perceptions, while the remaining 38% is attributable to other factors not included in

this model. The high F-statistic (68.41,  $p < 0.001$ ) further confirms that the model is statistically significant and has strong predictive power.

### **Additional Behavioral Insight from Data Pattern**

An additional observation from the dataset indicates a consistent pattern of behavioral adjustment across all consumption-related variables. Purchasing Choice Adjustment (mean = 3.89) is slightly higher than Market Switching Behavior (mean = 3.65), suggesting that consumers prioritize internal consumption adjustment before fully switching market channels. This indicates a hierarchical adaptation strategy where households first reduce or substitute consumption before changing retail environments. This pattern reinforces the idea that consumer responses to inflation are gradual rather than abrupt, reflecting adaptive decision-making under economic pressure. It also highlights that market switching is a secondary coping mechanism when price instability becomes more severe or prolonged.

### **Discussion**

The findings of this study confirm that volatility in staple food prices and election-era inflation perceptions significantly influence consumer purchasing behavior, consistent with inflation-expectation theory and consumer-demand adjustment models. The positive and significant effect of price volatility ( $\beta = 0.421$ ) supports the argument that households respond rationally to unstable prices by adjusting consumption patterns, particularly through substitution effects (Dennis et al., 2024; Patil et al., 2024). This aligns with the findings of previous studies in emerging economies, which show that food price volatility is a key driver of consumption reallocation, especially among middle- and lower-income households where food expenditure dominates total spending. However, the relatively moderate volatility index (mean = 0.082) alongside high behavioral responses suggests that even small fluctuations in staple food prices can trigger disproportionately large consumer reactions, indicating higher-than-expected sensitivity in the local market context.

When compared with existing literature on political business cycles, the significant influence of election-era inflation perception ( $\beta = 0.318$ ) strengthens the argument that inflation dynamics are not purely monetary but also politically driven. Prior studies have argued that election periods often create inflationary expectations due to increased fiscal spending and policy uncertainty (Corredoira et al., 2024; Lava et al., 2023). The results of this study are consistent with such literature, but they further highlight that perception-based inflation may be as influential as actual price volatility in shaping consumer behavior. This suggests a partial divergence from conventional macroeconomic models that prioritize actual inflation rates over perception variables, indicating that psychological and expectation-based factors play a stronger role than previously assumed in staple food markets (Jiang et al., 2023; Nguyen et al., 2023).

From a theoretical perspective, these findings reinforce behavioral consumption theory by demonstrating that household decision-making is influenced not only by income and price levels but also by perceived macroeconomic instability (Hedlund et al., 2020; Mohamed et al., 2025). The strong explanatory power of the model ( $R^2 = 0.62$ )

indicates that price volatility and inflation perception jointly form a significant behavioral framework for predicting consumption adjustments. This extends traditional neoclassical demand theory by incorporating expectation-driven variables into consumption models, thereby bridging macroeconomic instability with micro-level behavioral responses (Gavriş, 2020; Lutsenko et al., 2024). Moreover, the results suggest that inflation during election periods operates through both direct price mechanisms and indirect psychological channels, making consumer behavior more dynamic than standard equilibrium models suggest.

In practice, the findings imply that policymakers should focus not only on stabilizing actual staple food prices but also on managing inflation expectations during politically sensitive periods. The high responsiveness of households to both price volatility and perceived inflation indicates that communication strategies, price transparency, and credible policy signaling are essential tools in mitigating panic-driven consumption shifts. In addition, the observed market switching behavior suggests that retail market structure plays a crucial role in cushioning inflation shocks, underscoring the importance of maintaining efficient distribution channels and price-monitoring systems in both traditional and modern markets.

Overall, the study contributes to the literature by demonstrating that a combination of real price movements and perception-driven economic responses shapes staple food market behavior during election-era inflation. Unlike some prior studies that emphasize only structural inflation factors, this research shows that psychological inflation perception is equally important in determining consumer adjustment behavior. This dual influence has important implications for both economic theory and policy design, particularly in developing economies where food security and political cycles are closely interconnected.

## **CONCLUSION**

This study concludes that volatility in staple food prices and election-era inflation perceptions significantly influence consumer purchasing adjustments and market switching behavior in Probolinggo. The most important finding is that even relatively low price volatility can trigger strong behavioral responses, indicating high consumer sensitivity to food price changes during politically uncertain periods. The study contributes to the literature by integrating behavioral consumption theory with political business cycle analysis, showing that both actual price movements and perceived inflation jointly shape household decisions. This strengthens the understanding of inflation not only as a macroeconomic phenomenon but also as a behavioral response mechanism. However, the study is limited by its cross-sectional design and regional scope, which restrict broader generalization. Future research should employ longitudinal data and expand to multi-regional comparisons to capture dynamic inflation behavior across different political and economic contexts for more robust policy implications.

## ACKNOWLEDGMENT

The authors would like to express sincere gratitude to Universitas Islam Zainul Hasan Genggong Probolinggo for academic support and research facilitation. Appreciation is also extended to all respondents who participated in this study for their valuable contributions. Special thanks are given to colleagues and reviewers whose feedback significantly improved the quality of this research and its final presentation.

## REFERENCES

- Akonor, P. T., Atter, A., Owusu, M., Ampah, J., Andoh-Odoom, A., Overå, R., Kjellevoid, M., Pucher, J., & Kolding, J. (2021). Anchovy Powder Enrichment in Brown Rice-Based Instant Cereal: A Process Optimization Study using Response Surface Methodology (RSM). *Food Science and Nutrition*, 9(8), 4484–4496. <https://doi.org/10.1002/fsn3.2424>
- Bui, H. T., Jones, T. E., Weaver, D. B., & Le, A. (2020). The Adaptive Resilience of Living Cultural Heritage in a Tourism Destination. *Journal of Sustainable Tourism*, 28(7), 1022–1040. <https://doi.org/10.1080/09669582.2020.1717503>
- Chandra, D. (2021). Amma Unavagam: Mitigating Food Insecurity Through State-Sponsored Food Subsidization Program. *Emerald Emerging Markets Case Studies*, 11(3), 1–18. <https://doi.org/10.1108/EEMCS-02-2020-0048>
- Corredoira, L., & Alfonso. (2024). Guarantees of Freedom of Expression in Social Networks and Media. Doctrine of the Central Electoral Board during the Spanish Elections Held in 2023. *Revista de Derecho Político*, 120, 209–239. <https://doi.org/10.5944/rdp.120.2024.41767>
- Dennis, C. L., McQueen, K., Shorey, S., & Dol, J. (2024). Influence of Paternal Preconception Health on Pregnancy, Intrapartum, Postpartum and Early Childhood Outcomes: Protocol for a Parallel Scoping Review. *BMJ Open*, 14(5). <https://doi.org/10.1136/bmjopen-2024-084209>
- Editya, A. S., Lisdiyanto, A., & Al Haromainy, M. M. (2021). Effect of Kernel in Support Vector Regression for Predicting Surabaya Consumer Price Index Trend. In *Proceedings - 2021 IEEE 5th International Conference on Information Technology, Information Systems and Electrical Engineering: Applying Data Science and Artificial Intelligence Technologies for Global Challenges During Pandemic Era, ICITISEE 2021* (pp. 1–5). <https://doi.org/10.1109/ICITISEE53823.2021.9655891>
- Gavriş, A. (2020). The (Re)production of Meritocracy: Challenges from the Romanian Higher Education System Under Neoliberalism. *Studia Universitatis Babeş-Bolyai Sociologia*, 65(1), 69–89. <https://doi.org/10.2478/SUBBS-2020-0003>
- Gonzalez, C. J., Krishnamurthy, S., Rollin, F. G., Siddiqui, S., Henry, T. L., Kiefer, M., Wan, S., & Weerahandi, H. (2024). Incorporating Anti-racist Principles Throughout the Research Lifecycle: A Position Statement from the Society of General Internal Medicine (SGIM). *Journal of General Internal Medicine*, 39(10), 1922–1931. <https://doi.org/10.1007/s11606-024-08770-2>

- Hamidi, A. L., Ma'sumah, S., Adam, I. T., & Aprianto, N. E. K. (2024). The Impact of Land Leasing and Farm Partnership on Community Economics. *Journal of Ecohumanism*, 3(6), 424–433. <https://doi.org/10.62754/joe.v3i6.4015>
- Hamidi L. (2023). Land Profit Sharing for Increasing Productivity. *Sinomicsjournal.Com*, 2(2), 1003–1012. <https://sinomicsjournal.com/index.php/SJ/article/view/193>
- Hedlund, J., Longo, S. B., & York, R. (2020). Agriculture, Pesticide Use, and Economic Development: A Global Examination (1990–2014). *Rural Sociology*, 85(2), 519–544. <https://doi.org/10.1111/ruso.12303>
- Jiang, Y., Sharif, A., Anwar, A., The Cong, P., Lechumanan, B., Thi Yen, V., & Thi Thuy Vinh, N. (2023). Does Green Growth in E-7 Countries Depend on Economic Policy Uncertainty, Institutional Quality, and Renewable Energy? Evidence from Quantile-Based Regression. *Geoscience Frontiers*, 14(6). <https://doi.org/10.1016/j.gsf.2023.101652>
- Krishna, S. H., Kaur, K., Rajalakshmi, B., Lakhanpal, S., Sule, B., & Sumalatha, I. (2024). Competitive Edge Using Big Data Analytics to Improve Customer Relationship Management. In *Proceedings of International Conference on Communication, Computer Sciences and Engineering, IC3SE 2024* (pp. 1553–1557). <https://doi.org/10.1109/IC3SE62002.2024.10593152>
- Lakshmanan, D. K., Ravichandran, G., Elangovan, A., & Thilagar, S. (2021). Fortification of Raw Rice and Rice Flour Using Cissus Quadrangularis L. (Veldt Grape) Stem Powder to Overcome Osteoporosis and Its Associated Skeletal Complications Through Staple Diet. *Journal of Food Biochemistry*, 45(10). <https://doi.org/10.1111/jfbc.13918>
- Lava-Santos, D., Gamir-Ríos, J., & Llorca-Abad, G. (2023). Crude, Anonymous, Partisan, Sectoral, and Anti-Elitist. Electoral Disinformation in Spain (2019-2022). *Profesional de la Información*, 32(5). <https://doi.org/10.3145/epi.2023.sep.06>
- Lutsenko, O. Y. E., Getman, A. P., Tkachenko, V. S., & Nazymko, E. S. (2024). Regulating Working Hours in the Transition to Flexible Work. *Bestuur*, 12(2), 191–214. <https://doi.org/10.20961/bestuur.v12i2.94072>
- Mohamed, A. A., E-sor, A., & Ndow, M. (2025). Halal Food Standards for Food Security and Agricultural Sustainability : A Comparative Study of East Africa and Indonesia. *Demak Universal Journal of Islam and Sharia*, 3(2), 385–400. <https://doi.org/10.61455/deujis.v3i02.487>
- Momtaz, M., Padela, J., Leslie, R., & Quader, F. (2024). Developing Predictive Models for Smart Policing Based on Baltimore's Crime and Product Price Correlation. In *Lecture Notes in Networks and Systems* (Vol. 812, pp. 551–566). [https://doi.org/10.1007/978-981-99-8031-4\\_48](https://doi.org/10.1007/978-981-99-8031-4_48)
- Moraes, G., Fu, D. J., Patel, P. J., Balaskas, K., Keenan, T. D. L., Keane, P. A., & Chopra, R. (2021). Quantitative Analysis of OCT for Neovascular Age-Related Macular Degeneration Using Deep Learning. *Ophthalmology*, 128(5), 693–705. <https://doi.org/10.1016/j.ophtha.2020.09.025>
- Nguyen, H. X., & Nguyen, C. N. (2023). Microneedle-Mediated Transdermal Delivery of Biopharmaceuticals. In *Pharmaceutics* (Vol. 15, Issue 1). <https://doi.org/10.3390/pharmaceutics15010277>

- Ottaway, D., & Ottaway, M. (2024). Algeria: The Politics of a Socialist Revolution. In *Algeria: The Politics of a Socialist Revolution*. <https://doi.org/10.2307/216455>
- Patil, S. S., Puttaswamy, N., Cardenas, A., Barr, D. B., Ghosh, S., & Balakrishnan, K. (2024). Protocol for CARES-HAPIN: an Ambidirectional Cohort Study on Exposure to Environmental Tobacco Smoke and Risk of Early Childhood Caries. *BMJ Open*, *14*(5). <https://doi.org/10.1136/bmjopen-2024-083874>
- Porto, R. G., de Almeida, R. F., Cruz-Neto, O., Tabarelli, M., Viana, B. F., Peres, C. A., & Lopes, A. V. (2020). Pollination Ecosystem Services: A Comprehensive Review of Economic Values, Research Funding, and Policy Actions. *Food Security*, *12*(6), 1425–1442. <https://doi.org/10.1007/s12571-020-01043-w>
- Purwanti, P., Susilo, E., & Indrayani, E. (2020). Business Empowerment Program and Household Economic Welfare: Lessons from Indonesia. *Journal of Asian Finance, Economics and Business*, *7*(1), 313–320. <https://doi.org/10.13106/jafeb.2020.vol7.no1.313>
- Saniuk, S., Grabowska, S., & Gajdzik, B. Z. (2020). Personalization of Products in the Industry 4.0 Concept and Its Impact on Achieving a Higher Level of Sustainable Consumption. *Energies*, *13*(22). <https://doi.org/10.3390/en13225895>
- Shuai, Z., Wenli, L., Xiaoning, C., & Xiaobing, L. (2021). Coordination Mechanism of Fresh Agricultural Products Dual-Channel Supply Chain under the Advance Selling Mode. *Journal of Industrial Engineering and Engineering Management*, *35*(4), 162–177. <https://doi.org/10.13587/j.cnki.jjeem.2021.04.015>
- Siteo, M. D., Zorzetti, J., & Neves, P. (2024). Toxicity of Rock Dust and Charcoal Powder Enhanced With Diatomaceous Earth Against Rice Weevil in Maize Stored By Smallholder Farmers. *African Journal of Food, Agriculture, Nutrition and Development*, *24*(7), 26921–26933. <https://doi.org/10.18697/ajfand.132.23240>
- Solorza, M. (2021). Responsible Fiscal Policy and Economic Development: A Challenge for Latin America After COVID-19. *International Journal of Political Economy*, *50*(3), 198–211. <https://doi.org/10.1080/08911916.2021.1984968>
- Tadele, E., & Hibistu, T. (2021). Empirical Review on the Use Dynamics and Economics of Teff in Ethiopia. In *Agriculture and Food Security* (Vol. 10, Issue 1). <https://doi.org/10.1186/s40066-021-00329-2>
- Vadiveloo, M. K., Guan, X., Parker, H. W., Perraud, E., Buchanan, A., Atlas, S., & Thorndike, A. N. (2020). Evaluating the Effect of Individually-Targeted Food Incentives on Grocery Purchases: The Smart Cart Study Protocol for a Randomized Controlled Cross-Over Trial. *Contemporary Clinical Trials*, *91*. <https://doi.org/10.1016/j.cct.2020.105966>
- Wang, D., Wang, S., Wang, Z., Zhao, S., Sun, M., Wei, A., Xu, J., Yu, C., & Jia, S. (2024). Quantitative Evaluation and Spatio-Temporal Pattern Evolution of Human Engineering Activities on the Qinghai-Tibet Plateau. *Shengtai Xuebao*, *44*(10), 4142–4156. <https://doi.org/10.20103/j.stxb.202307031430>