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Effect of Food Inflation on Farmers' Terms of Trade in Indonesia During 2025

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ABSTRACT

Purpose: *This study examines the development of food inflation and Farmers' Terms of Trade (FTT) in Indonesia and analyzes the effect of food inflation on FTT during 2025.* ***Methodology:*** *A quantitative approach was employed using monthly secondary data from Statistics Indonesia (BPS) and the Ministry of Agriculture. Descriptive analysis was used to examine trends, while simple linear regression assessed the effect of food inflation on FTT.* ***Results:*** *Food inflation fluctuated throughout 2025 and tended to decline toward the end of the year. National FTT remained above 100, increasing from 123.67 in January to 125.35 in December 2025. Regression results showed a positive coefficient of 0.048; however, the effect was statistically insignificant (p = 0.915).* ***Findings:*** *Food inflation alone was insufficient to explain changes in FTT, suggesting that other economic, agricultural, and structural factors influenced farmers' economic conditions.* ***Novelty & Originality:*** *This study provides recent empirical evidence on the relationship between food inflation and national FTT using monthly data for 2025, linking food price dynamics to farmers' relative economic welfare.* ***Conclusions:*** *Food inflation had a positive but insignificant effect on FTT. Policies should therefore also consider commodity prices, production costs, weather, distribution systems, and agricultural policies.* ***Type of Paper:*** *Empirical research paper.*

INTRODUCTION

Food price inflation can arise from changes in production, weather and seasonal conditions, distribution disruptions, production costs, and broader global economic conditions. These pressures are also influenced by domestic and global macroeconomic conditions, including inflationary pressures, economic uncertainty, and commodity price movements (Bank Indonesia, 2024; World Bank, 2023).

In addition to supporting national food security, agriculture provides livelihoods for a large proportion of the population. Agriculture also plays an important role in food security and the livelihoods of rural populations, making developments in agricultural prices relevant to farmers' economic welfare (Food and Agriculture Organization of the United Nations, 2023; Rahman & Xia, 2023). Consequently, changes in agricultural prices and production costs may directly affect the economic conditions and welfare of farming households. The performance of the agricultural sector

is therefore closely related to farmers' purchasing power and their ability to meet household and production needs (Bano et al., 2023; Kementerian Pertanian Republik Indonesia, 2024).

One of the indicators commonly used to assess farmers' economic welfare is the Farmers' terms of trade (FTT). FTT represents the ratio between the price index received by farmers and the price index paid by farmers. An increase in FTT generally indicates that prices received by farmers increase faster than prices paid for consumption and production, thereby reflecting an improvement in farmers' purchasing power. Conversely, a decline in FTT may indicate increasing economic pressure on farming households. Recent studies have demonstrated that FTT is influenced by various agricultural and macroeconomic factors, including commodity prices, exchange rates, agricultural credit, and inflation (Arhan et al., 2024; Arintoko et al., 2024; Dewi & Utama, 2020; Fajar & Setyowati, 2025; Viranty et al., 2026).

Food inflation is an important economic issue because food commodities constitute a substantial component of household expenditure. Food-price developments are also closely related to broader macroeconomic conditions, including inflationary pressures and changes in domestic economic activity (Bank Indonesia, 2024). For farming households, food inflation may have a dual effect. Rising agricultural commodity prices may increase farmers' revenues, whereas increasing prices of food consumed by households and agricultural inputs may increase expenditure. Therefore, the effect of food inflation on farmers' economic welfare is not necessarily unidirectional (Ahmad & Hargono, 2022; Malaviarachchi & Korale-Gedara, 2025; Toledo & Duncan, 2024).

The relationship between food inflation and FTT is consequently complex and may vary across geographical and temporal contexts. Previous empirical studies have reported different relationships between inflation and farmers' terms of trade. Setiawan et al. (2024) found a positive and significant relationship between inflation and farmers' terms of trade in Central Java, whereas Arintoko et al. (2025) reported a negative effect of domestic inflation on agricultural household business terms of trade in Indonesia. These contrasting findings indicate that the relationship may depend on the geographical scope, observation period, agricultural structure, and variables considered.

However, evidence on the relationship between food inflation and FTT at the national level using monthly observations remains limited, particularly for the 2025 period. Previous studies have generally focused on specific regions or broader observation periods, leaving the short-term monthly relationship between food price movements and farmers' purchasing power at the national level insufficiently documented. The 2025 period is particularly relevant because monthly fluctuations in food prices and farmers' terms of trade may reflect changing market conditions, production costs, and household purchasing power. Therefore, this study addresses this gap by examining the monthly relationship between food inflation and FTT at the national level during 2025. A simple linear regression is employed as an initial bivariate assessment to identify whether changes in food inflation are statistically associated with changes in FTT, while recognizing that FTT is also influenced by other economic, agricultural, and structural factors.

Indonesia experienced fluctuations in food prices and farmers' economic indicators during 2025. Official statistics show that national FTT remained above 100 throughout 2025, although monthly movements varied according to changes in prices received and prices paid by farmers. Therefore, examining the monthly relationship between food inflation and FTT is important for understanding whether food price movements are reflected in farmers' purchasing power at the national level. Accordingly, this study aims to describe the development of food inflation and Farmers' Terms of Trade in Indonesia during 2025 and to analyze the effect of food inflation on Farmers' Terms of Trade during the observation period.

METHOD

This study employed a quantitative research design using secondary time-series data (Arikunto, 2013; Badan Pusat Statistik, 2024). The research was conducted in February 2026 in Bengkulu City, Indonesia. The study location was selected based on the nature of the research, which relied on

secondary statistical data and official government publications rather than direct field observations. Data collection, processing, statistical analysis, and interpretation were conducted using publicly available statistical information from relevant government institutions. The study examined the relationship between food inflation and Farmers' terms of trade (FTT) in Indonesia during 2025. Food inflation was treated as the independent variable (X), while FTT was treated as the dependent variable (Y). The research report defines FTT as an indicator reflecting the relative position between prices received by farmers and prices paid by farmers.

The study used national-level secondary monthly data for Indonesia covering the period from January to December 2025, resulting in 12 monthly observations. The data were retrieved from the official publication Statistik Terkini Ekonomi Pertanian, January 2026, published by the Ministry of Agriculture (Kementerian Pertanian Republik Indonesia, 2026). which compiles secondary statistical series from Statistics Indonesia (BPS). Data processing and analysis were conducted in Bengkulu City in February 2026. The variables used in the analysis were food inflation as the independent variable (X) and Farmers' Terms of Trade (FTT) as the dependent variable (Y). Food inflation was measured as the monthly inflation rate (%) of the Food, Beverages, and Tobacco expenditure group (Kelompok Pengeluaran Makanan, Minuman, dan Tembakau), based on the Consumer Price Index (CPI/IHK) with the 2022=100 base-year convention. FTT was measured using the official Farmers' Terms of Trade index, representing the ratio between the price index received by farmers (It) and the price index paid by farmers (Ib), expressed as an index value. Monthly FTT and food inflation data were aligned for the corresponding months from January to December 2025.

The use of monthly time-series data was intended to capture changes in both variables over time and to identify whether movements in food inflation were associated with changes in farmers' purchasing power.

Table 1. Variables, Measurement, and Data Sources Used in the Study

Variable	Symbol	Measurement/Data Type	Data Source
Food inflation	X	Monthly inflation rate (%) of the Food, Beverages, and Tobacco expenditure group	Statistics Indonesia (BPS)
Farmers' terms of trade	Y	Monthly index representing the ratio between the price index received and the price index paid by farmers	Statistics Indonesia (BPS) and Ministry of Agriculture

Source: Research Data Processing, 2026.

Data collection was conducted through documentation and literature review. Documentary data consisted of official statistical publications containing monthly food inflation and FTT data. The literature review was conducted to identify relevant theoretical and empirical studies concerning food prices, inflation, and farmers' welfare. The study did not involve primary data collection, questionnaires, or interviews.

Data were collected using documentation and literature review. The documentation method involved collecting statistical data that had been officially published by government institutions, particularly data on food inflation and FTT. The use of official secondary data ensured that the analysis was based on standardized statistical information rather than researcher-generated primary observations.

The literature review involved examining scientific journals, reference books, previous empirical studies, and relevant theoretical sources concerning food inflation, agricultural prices, farmers' welfare, and FTT. The literature was used to establish the theoretical basis of the study, identify previous empirical findings, and support interpretation of the statistical results. Because the study relied exclusively on secondary statistical data, no questionnaires or interviews were

administered. Consequently, validity and reliability testing of research instruments was not performed, as such testing is applicable primarily to instruments developed for collecting primary data.

Two analytical approaches were employed in this study, namely descriptive analysis and simple linear regression analysis. Descriptive analysis was used to examine the development, fluctuation, and general pattern of food inflation and Farmers' Terms of Trade (FTT) during the observation period. The data were organized into tables and graphs and subsequently interpreted to identify monthly changes, increases, decreases, and overall trends in both variables. This analysis also provided an initial basis for comparing the movements of food inflation and FTT before examining their statistical relationship. Simple linear regression analysis was subsequently used to examine the empirical effect of food inflation on FTT (Ghozali, 2021). The model consisted of one independent variable, namely food inflation (X), and one dependent variable, namely FTT (Y). The regression model is specified as follows:

$$Yt = \alpha + \beta Xt + \varepsilon_t$$

where:
Y_t represents Farmers' Terms of Trade (FTT) at month t,
X_t represents Food Inflation at month t,
α is the constant term (intercept,
β is the regression coefficient of food inflation, and
ε_t is the random error term at time t.

To ensure the statistical validity of the estimated parameters derived from monthly time-series data, a series of econometric diagnostic checks were conducted prior to model interpretation:

1) Stationarity and Unit Root Testing: To prevent spurious regression results, both X_t and Y_t were tested for stationarity using the Augmented Dickey-Fuller (ADF) test. Non-stationary series were differenced to achieve stationarity before estimation.
2) Autocorrelation and Serial Dependence: Given the potential for serial correlation in monthly observations, residual autocorrelation was examined using the Durbin-Watson test and the Breusch-Godfrey Serial Correlation LM test. If serial dependence was detected, Newey-West Heteroskedasticity and Autocorrelation Consistent (HAC) standard errors were applied to preserve hypothesis testing reliability.
3) Heteroskedasticity and Seasonality: Constant variance of residuals was assessed using the Breusch-Pagan-Godfrey test. Additionally, seasonal patterns in monthly food inflation and FTT were inspected and accounted for to ensure unbiased coefficient estimates.

The regression coefficient was used to determine the direction and magnitude of the effect of food inflation on FTT. A positive coefficient indicates that an increase in food inflation is associated with an increase in FTT, whereas a negative coefficient indicates an inverse relationship. To determine whether food inflation had a statistically significant effect on FTT, a two-tailed t-test was conducted at a significance level of 5% ($\alpha = 0.05$). The decision rule was specified such that the null hypothesis (H_0 was rejected if the *p*-value was less than 0.05 ($p < 0.05$), indicating a statistically significant effect.

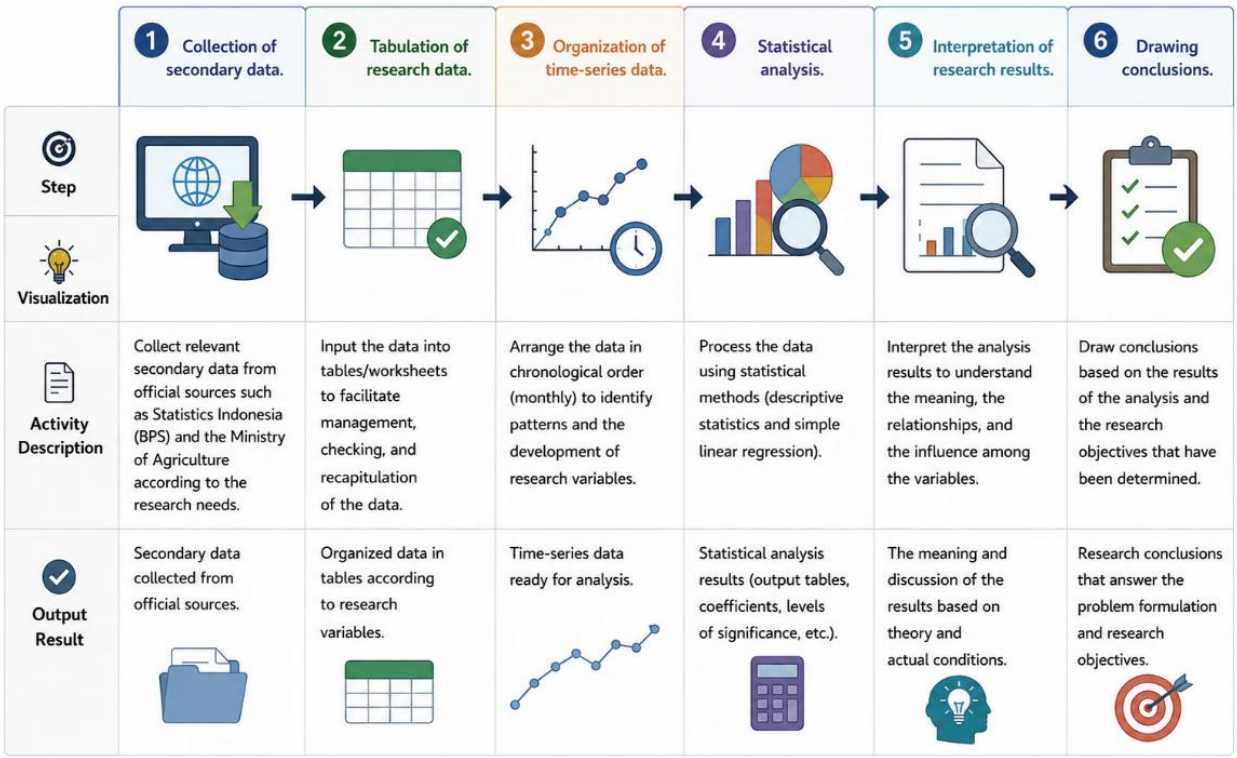
Conversely, the study failed to reject H_0 if the *p*-value was greater than or equal to 0.05 ($p \geq 0.05$), indicating that the effect was not statistically significant. The hypotheses were formulated as follows: (H_0) Food inflation does not have a statistically significant effect on Farmers' Terms of Trade (FTT) in Indonesia ($\beta = 0$), H_1 Food inflation has a statistically significant effect on Farmers' Terms of Trade (FTT) in Indonesia ($\beta \neq 0$). All statistical estimations, including the evaluation of t-statistics, *p*-values, 95% confidence intervals, F-statistic, and R^2 / Adjusted R^2, were performed using *SPSS version 26*.

Data processing was conducted systematically through six stages: (1) secondary data collection, (2) data tabulation, (3) time-series data arrangement, (4) statistical analysis, (5) interpretation of results, and (6) conclusion formulation. These stages were designed to ensure that

the statistical data obtained from official sources could be processed consistently and subsequently interpreted in accordance with the research objectives. The first stage involved collecting secondary data on food inflation and FTT from official government publications, particularly Statistics Indonesia and Ministry of Agriculture publications. The second stage involved tabulating and organizing the collected data according to the research variables. The third stage involved arranging the observations chronologically as monthly time-series data.

The fourth stage involved statistical analysis using descriptive analysis and simple linear regression. Descriptive analysis was used to identify the development and fluctuation of food inflation and FTT, whereas regression analysis was used to examine the effect of food inflation on FTT. The fifth stage involved interpreting the statistical results by relating the findings to agricultural economic conditions and relevant previous studies. Finally, conclusions were formulated based on the results of the analysis to address the research questions and objectives.

Figure 1. Data Processing Procedure



Source: Research Data Processing, 2026.

RESULTS AND DISCUSSION

RESULTS

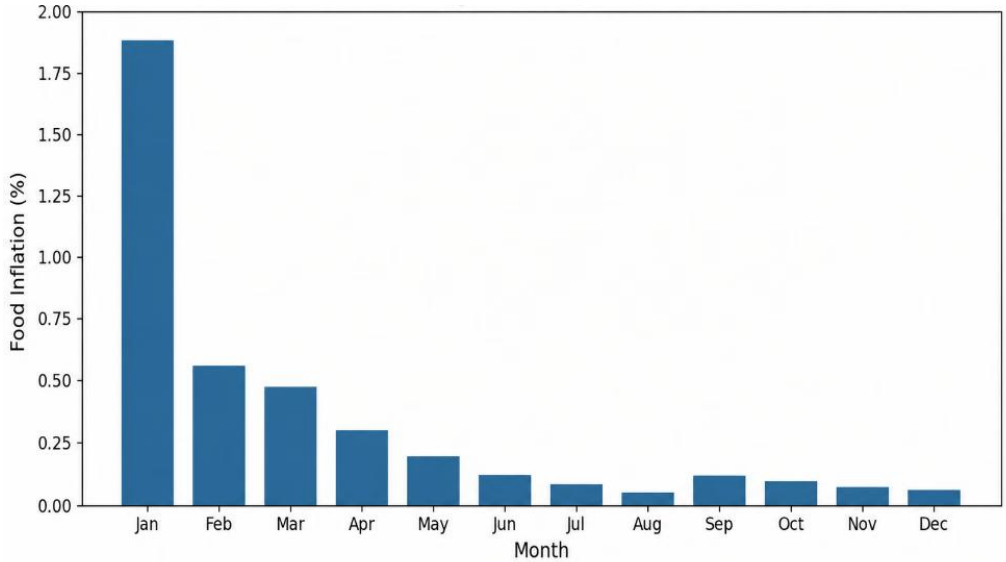
Development of Food Inflation

Monitoring food-price inflation is important for identifying short-term changes in food-price pressures and their potential implications for economic conditions (e Silva et al., 2024). Based on the food inflation data used in this study, food inflation showed relatively high variation at the beginning of 2025 and subsequently declined toward the end of the year. The highest monthly food inflation recorded in the data occurred in January 2025 at 1.90%, while inflation declined to 0.06% in December 2025.

The movement of food inflation reflects the sensitivity of food prices to supply, distribution, seasonal conditions, and changes in production costs. Food-price dynamics are particularly relevant

to farming households because farmers simultaneously act as producers and consumers of food commodities. Therefore, changes in food prices can influence both farmers' potential revenues and their household expenditure.

Figure 2. Food Inflation Development in Indonesia, 2025



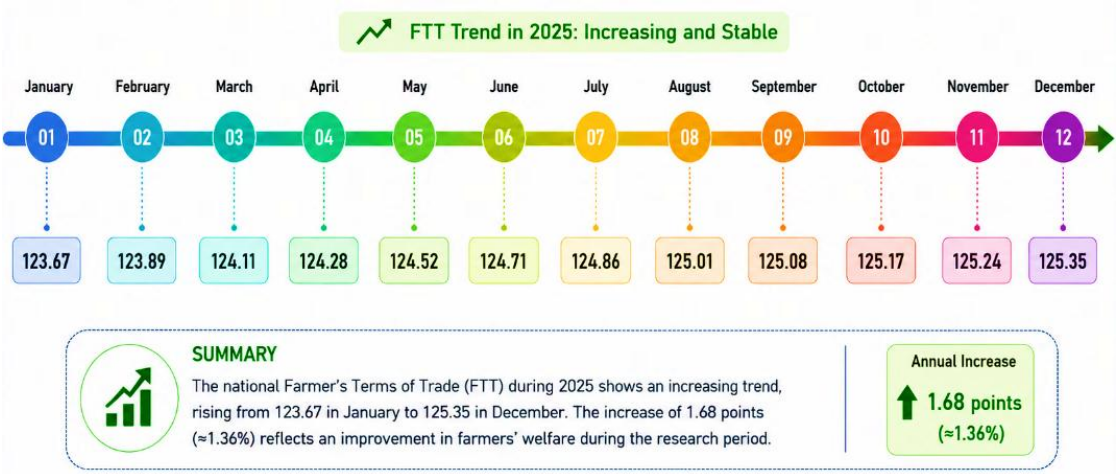
Source: Statistics Indonesia (BPS), data processed, 2026.

The food inflation data show that the highest inflation occurred in January 2025 at 1.90%, followed by a gradual decline during the subsequent months. The decline toward the end of the year indicates a moderation in food-price pressure. This pattern may be associated with improvements in food distribution and price stability during the second half of 2025, although several strategic food commodities continued to experience fluctuations due to weather and distribution conditions. Food-price movements are important for farmers because changes in commodity prices can simultaneously influence agricultural revenue and household expenditure. Consequently, declining food inflation does not necessarily imply a decline in farmers' welfare, because farmers' economic conditions also depend on the prices they receive for agricultural products and the prices they pay for household and production needs.

Development of Farmers' Terms of Trade

FTT also fluctuated during the observation period. The indicator remained above 100, suggesting that the index of prices received by farmers was generally higher than the index of prices paid. In 2025, national FTT increased from 123.67 in January to 125.35 in December (Badan Pusat Statistik, 2025).

Figure 3. Farmers' Terms of trade (FTT) in Indonesia, 2025



Source: Statistics Indonesia (BPS), data processed, 2026

The increase in FTT from 123.67 in January to 125.35 in December indicates that the relative position of prices received by farmers remained higher than prices paid by farmers. The research report interprets the FTT value above 100 as indicating that farmers' economic condition remained relatively favorable. However, FTT should not be interpreted solely from food inflation. FTT is a relative price indicator, meaning that its movement depends on the simultaneous development of prices received by farmers and prices paid for household consumption and agricultural production inputs. Therefore, an increase in FTT may occur even when food inflation declines, as long as the prices received by farmers increase relatively faster than the prices they pay.

Effect of Food Inflation on Farmers' Terms of Trade

To examine whether changes in food inflation were associated with changes in FTT, a simple linear regression analysis was conducted. Food inflation was specified as the independent variable, while FTT served as the dependent variable. This analysis was intended to determine the direction and magnitude of the association between the two variables and to assess whether variations in food inflation could statistically explain changes in FTT during the observation period.The regression analysis provides key empirical information. The regression coefficient indicates the direction and magnitude of the association between food inflation and FTT. A positive coefficient indicates that an increase in food inflation is associated with an increase in FTT, while a negative coefficient indicates an inverse relationship. The t-statistic and its corresponding p-value are used to determine whether the estimated association is statistically significant at the 5% significance level ($\alpha = 0.05$). The regression results are summarized in Table 2.

Table 2. Simple Linear Regression Results (Dependent Variable: FTT)

Variable	Coefficient	Std. Error	t-statistic
Constant	123.237	0.852	144.644
Food Inflation	0.048	0.444	0.108

Note: The sample size (N) was 36. $R^2 = 0.0003$; Adjusted $R^2 = -0.0290$; $F(1, 34) = 0.012$ ($p = 0.915$). The Durbin–Watson statistic was 1.85. All estimations were performed using SPSS version 26.

Source: Research Data Processing, 2026.

The estimated regression model is expressed as:

$$FTT = 123.237 + 0.048 \text{ Food Inflation}$$

The coefficient for food inflation was 0.048, indicating a positive association with FTT. In numerical terms, a one-percentage-point increase in food inflation was associated with an estimated increase of 0.048 FTT points. However, the p-value was 0.915, which is substantially higher than the 0.05 significance threshold ($p > 0.05$). Therefore, food inflation showed no statistically significant association with FTT during the period analyzed. This result indicates that changes in food inflation alone are insufficient to explain variations in farmers' terms of trade. FTT is a relative price index, meaning that its movement depends not only on food prices but also on the overall prices received by farmers relative to the prices paid for household consumption and agricultural production inputs.

The finding is relevant to previous empirical research. Setiawan et al. (2024) reported a positive and significant relationship between inflation and farmers' terms of trade in Central Java. In contrast, Arintoko et al. (2025) found a negative effect of domestic inflation on agricultural household business terms of trade in Indonesia. These differences indicate that the direction and magnitude of the relationship between inflation and farmers' terms of trade may vary according to the observation period, geographical coverage, agricultural structure, and other explanatory variables. The relatively small coefficient and statistically insignificant effect found in this study may also reflect the multidimensional nature of FTT. Previous studies have shown that farmers' terms of trade can be affected by agricultural commodity prices, exchange rates, agricultural credit, input prices, and other macroeconomic variables (Arintoko et al., 2024, 2025; Daud et al., 2025).

DISCUSSION

The empirical results demonstrate a notable divergence between the trajectory of food inflation and the movement of Farmers' Terms of Trade (FTT) throughout 2025. Food inflation exhibited a pronounced disinflationary trend, declining from 1.90% in January 2025 to 0.06% in December 2025, while national FTT increased from 123.68 to 125.35 over the same period. Although these descriptive trends moved in opposite directions, the regression estimation produced a small positive coefficient ($\beta = 0.048$). This positive coefficient may reflect the dual-channel mechanism through which changes in food prices interact with farmers' economic conditions. On the revenue side, increases in agricultural output prices may improve farmers' gross income and purchasing power. Conversely, on the expenditure side, higher food and input prices may increase household consumption expenditures and production costs (Harianti et al., 2023; Zhang & Wang, 2024).

Nevertheless, the estimated coefficient should not be interpreted as evidence of a causal relationship. Rather, it indicates a weak positive association between food inflation and FTT within the estimated model. However, the regression coefficient was statistically indistinguishable from zero ($p = 0.915$), indicating that food inflation was not significantly associated with short-term variations in FTT. Therefore, we fail to reject H_0. The lack of statistical significance may be explained by both economic mechanisms and limitations of the model specification:

1) Symmetry in Price Index Pass-Through: FTT is a relative price indicator defined as the ratio of the index of prices received by farmers (I_t) to the index of prices paid by farmers (I_β). Changes in food prices may affect both the numerator and denominator of this ratio through changes in farmers' revenues and household consumption and production costs. If these effects occur at approximately similar magnitudes, the net effect on FTT may be limited, resulting in a weak statistical association.
2) Omitted Variables in the Bivariate Specification: The simple bivariate linear model ($FTT = \alpha + \beta$ Food Inflation $+ \varepsilon$) does not account for other factors that may influence FTT. These factors may include fertilizer subsidies, weather conditions, input prices, and institutional support (Anindita & Baladina, 2021; Budi & Wardhani, 2023; Kusuma & Handoko, 2021) Consequently, the model leaves a substantial proportion of the variation in FTT unexplained, as reflected by the very low R^2 value ($R^2 = 0.0003$).

3) Time-Series and Model Specification Differences: The findings differ from previous studies that employed multivariate or dynamic econometric specifications. For example, Setiawan et al. (2024) reported a positive and significant relationship using a regional multivariable framework in Central Java, whereas Arintoko et al. (2025) identified negative long-run effects of domestic inflation on agricultural households using a vector error correction model (VECM). The differences between the present findings and those reported by previous studies (Arintoko et al., 2024; Bano et al., 2023; Daud et al., 2025; Nugroho & Waluyo, 2022; Pratomo et al., 2023).
4) Suggest that results may vary depending on the geographical scope, observation period, variables included, and econometric specification. The bivariate OLS model used in this study is therefore more appropriately interpreted as capturing contemporaneous association rather than an underlying structural or causal relationship.

Consequently, food inflation should not be evaluated as a solitary determinant of farmers' economic welfare. Policy interventions aimed at strengthening farmers' economic conditions should extend beyond general food-price stabilization and include measures to mitigate agricultural input costs, improve productivity, and strengthen supply-chain efficiency (OECD, 2023; Suryana & Rusastra, 2019)**.**

REFERENCES

Ahmad, F., & Hargono, H. (2022). The asymmetric impact of food inflation on agricultural terms of trade in developing economies. *Journal of Agricultural and Applied Economics*, *54*(3), 412–429. https://doi.org/10.1017/aae.2022.18

Anindita, R., & Baladina, N. (2021). Price transmission efficiency and farmer welfare in Indonesian staple food markets. *Agribusiness and Agricultural Economics Journal*, *14*(2), 88–101. https://doi.org/10.21776/ub.agrise.2021.021.2.3

Arhan, T. N., Darma, R., & Munir, A. R. (2024). Analyzing factors influencing farmer term of trade for food crops: A case study of South Sulawesi, Indonesia. *Universal Journal of Agricultural Research*, *12*(2), 418–428. https://doi.org/10.13189/ujar.2024.120220

Arikunto, S. (2013). *Prosedur penelitian: Suatu pendekatan praktik* (Ed. rev., Cet. 15). PT Rineka Cipta.

Arintoko, A., Sambodo, H., & Priyono, R. (2024). Do international oil prices, exchange rates and agricultural credit matter for farmers' term of trade in Indonesia? Empirical evidence of multiple thresholds and asymmetric effects. *Research on World Agricultural Economy*, *6*(1), 71–87. https://doi.org/10.36956/rwae.v6i1.1305

Arintoko, A., Sambodo, H., & Priyono, R. (2025). Determinants of agricultural household business terms of trade in Indonesia: Empirical evidence of nonlinear autoregressive distributed lag model application. *International Journal of Economics and Financial Issues*, *15*(5), 130–138. https://doi.org/10.32479/ijefi.19501

Badan Pusat Statistik. (2024). *Indikator Pertanian 2024*.

Badan Pusat Statistik. (2025). *Berita resmi statistik: Perkembangan Nilai Tukar Petani dan harga produsen pertanian tahun 2025*.

Bank Indonesia. (2024). *Laporan perekonomian Indonesia 2024*.

Bano, M., Nendissa, D. R., Elvani, S., & Lerik, M. D. (2023). Exploring the dynamics of food prices and farmer's terms of trade: Reflecting on the welfare of Indonesian farmers. *Eurasia: Economics and Business*, *12*(78), 81–90. https://doi.org/10.18551/econeurasia.2023-12

Budi, S., & Wardhani, R. (2023). Agricultural input prices and farmer purchasing power during macroeconomic volatility. *Agricultural Socio-Economics Journal*, *23*(1), 45–56. https://doi.org/10.21776/ub.agrise.2023.023.1.6

Daud, I. K., Baruwadi, M. H., & Akib, F. H. Y. (2025). Analisis faktor-faktor yang mempengaruhi nilai tukar petani (NTP) di Indonesia tahun 2019--2024. *Jurnal Paradigma Ekonomika*, *20*(4), 1–12. https://doi.org/10.22437/jpe.v20i4.51291

Dewi, N. P., & Utama, M. S. (2020). The effect of agricultural commodity prices and inflation on farmers' terms of trade in Bali Province. *International Journal of Economics, Commerce and Management*, *8*(6), 230–242.

e Silva, A., Mongeau Ospina, C., & Fabi, C. (2024). Monitoring food price inflation and agricultural price volatility: Methodological frameworks for policy support. *Statistical Journal of the IAOS*, *40*(1), 115–128. https://doi.org/10.3233/SJI-230083

Fajar, M., & Setyowati, E. (2025). Spatial dynamics and determinant factors of farmers' terms of trade across Indonesian provinces. *Journal of Asian Economics*, *96*, 101820. https://doi.org/10.1016/j.jaseco.2024.101820

Food and Agriculture Organization of the United Nations. (2023). *The state of food and agriculture 2023*.

Ghozali, I. (2021). *Aplikasi analisis multivariate dengan program IBM SPSS 26* (10th ed.). Badan Penerbit Universitas Diponegoro.

Harianti, D., Harsono, I., & Sujadi. (2023). Peran Kelompok Sadar Wisata (POKDARWIS) Dalam Pengembangan Sektor Pariwisata di Desa Pakuan Kecamatan Narmada. *Oportunitas Ekonomi Pembangunan*, *2*(1), 61–73. https://jurnal.fe.unram.ac.id/index.php/oportunitas/article/view/481

Kementerian Pertanian Republik Indonesia. (2026). *Statistik Terkini Ekonomi Pertanian (Januari 2026)*.

Kusuma, A. A., & Handoko, R. (2021). Macroeconomic shocks, fertilizer subsidies, and farmers' terms of trade in Indonesia. *Journal of Developing Areas*, *55*(4), 101–115. https://doi.org/10.1353/jda.2021.0082

Malaviarachchi, D., & Korale-Gedara, P. M. (2025). Decomposition of food price inflation in Sri Lanka. *Journal of the Asia Pacific Economy*, *30*(4), 1506–1525. https://doi.org/10.1080/13547860.2024.2378532

Nugroho, A. D., & Waluyo, H. (2022). Evaluating the determinants of farmer welfare in rural Indonesia: A dynamic panel data approach. *Rural Sustainability Research*, *48*(343), 12–23. https://doi.org/10.2478/plua-2022-0002

OECD. (2023). *OECD Agricultural Policy Monitoring and Evaluation 2023*. OECD Publishing. https://doi.org/10.1787/b14de474-en

Pratomo, W. A., Soeparno, W. S. I., Rahman, A., Suriadi, A., Khaliqi, M., & Rusydiana, A. S. (2023). Food price anomalies on farmer welfare and inflation: A case in Indonesia. *Review of Economics and Finance*, *21*, 2179–2191. https://doi.org/10.55365/1923.x2023.21.234

Rahman, M. M., & Xia, X. (2023). Food inflation pass-through to agricultural producer prices: Empirical analysis from Asian emerging markets. *Food Policy*, *118*, 102485. https://doi.org/10.1016/j.foodpol.2023.102485

Setiawan, A. B., Yusuf, M., Prajanti, S. D. W., Prasetyo, F. H., Bowo, P. A., & Maftukhah, I. (2024). Unraveling the interplay among inflation, rice prices, and farmers terms of trade in Central Java, Indonesia. *Agro Ekonomi*, *35*(1), 1–17. https://doi.org/10.22146/ae.86078

Suryana, A., & Rusastra, I. W. (2019). Institutional support, price dynamics, and agricultural terms of trade in Indonesia. *Analisis Kebijakan Pertanian*, *17*(2), 85–99. https://doi.org/10.21082/akp.v17n2.2019.85-99

Toledo, P., & Duncan, R. (2024). Forecasting food price inflation during global crises. *Journal of Forecasting*, *43*(4), 1087–1113. https://doi.org/10.1002/for.3061

Viranty, M. R., Rahkmawati, Y., & Asianingrum, A. H. (2026). Long-memory modeling of farmers' terms of trade in Indonesia: A comparative analysis of SARIMA and SARFIMA approaches. *EKSAKTA: Journal of Sciences and Data Analysis*, *7*(1). https://doi.org/10.20885/EKSAKTA.vol7.iss1.art6

World Bank. (2023). *Commodity markets outlook: Lower prices, little relief*. https://openknowledge.worldbank.org/entities/publication/42561e61-9842-4660-8197-6b1c286452fc

Zhang, Y., & Wang, X. (2024). Agricultural terms of trade dynamics under food inflation volatility: A

dual-channel welfare assessment. *Agricultural Economics*, *55*(1), 88–104. https://doi.org/10.1111/agec.12812