

Determination of The Consumer Confidence Index During Structural Changes Under Covid-19: A Case Study In Yogyakarta, Indonesia

Rahma Nurul Hanifah¹, Agus Tri Basuki², Imamudin Yuliadi³

^{1, 2, 3}Magister Ekonomi Universitas Muhammadiyah Yogyakarta, Indonesia

*Corresponding Author:

Email: agustribasuki@yahoo.com

Abstract.

Consumer confidence plays a crucial role in driving household consumption and maintaining regional economic stability, particularly during periods of economic uncertainty. This study aims to examine the effects of the COVID-19 pandemic, inflation, tourist arrivals, exchange rates (BI Rate), and the Regional Minimum Wage on the Consumer Confidence Index (CCI) in the Special Region of Yogyakarta. The study employs a quantitative approach using monthly time-series data covering the period from 2018 to 2025, obtained from Statistics Indonesia (BPS), Bank Indonesia (BI), and other official institutions. The analysis applies the Autoregressive Distributed Lag (ARDL) model, which enables simultaneous estimation of both short-run and long-run relationships among variables integrated at different orders, namely $I(0)$ and $I(1)$. The empirical findings indicate that consumer confidence exhibits strong persistence, implying that previous consumer perceptions significantly influence current confidence levels. In the short run, Exchange rate depreciation have significant negative effects on consumer confidence, whereas inflation and tourist arrivals positively and significantly affect the Consumer Confidence Index. Meanwhile, the COVID-19 pandemic, BI Rate and the Regional Minimum Wage do not have statistically significant effects on consumer confidence. These findings support the life cycle hypothesis theory, suggesting that household consumption decisions and consumer confidence are primarily shaped by expectations of permanent income and future economic prospects rather than temporary macroeconomic shocks. The study highlights the importance of maintaining macroeconomic stability, promoting tourism recovery, preserving exchange rate stability, and controlling inflation within a manageable range to strengthen consumer confidence and support sustainable regional economic growth.

Keywords: *Consumer Confidence Index; ARDL; Inflation; Tourist Arrivals and Exchange Rate.*

I. INTRODUCTION

The COVID-19 pandemic became one of the largest economic shocks in recent decades, triggering fundamental changes in consumer behavior. This phenomenon has brought many bitter experiences to the global economy due to the direct threats it posed to people's daily lives (Alam et al., 2022). Developing countries, including Indonesia, experienced serious impacts because the pandemic not only crippled the health sector but also disrupted social and economic stability. According to Setyoko and Kurniasih (2022), there are three main sectors most affected by the COVID-19 pandemic in Indonesia: tourism, trade, and investment. In line with this, the Organisation for Economic Co-operation and Development (OECD) emphasized that the pandemic triggered the threat of a global economic crisis characterized by halted production activities, weakened household consumption, declining consumer confidence, a crash in financial markets, and increased economic uncertainty (Affandi et al., 2020; Banna et al., 2022). These conditions indicate that the pandemic not only caused economic contraction but also shifted society's expectations and perceptions of current economic conditions and future prospects (Fournier et al., 2022; Setyoko & Kurniasih, 2022).

This shift in perception is reflected in the fluctuations of the Consumer Confidence Index (CCI), which is one of the key indicators describing household optimism towards economic conditions (Dima et al., 2024; Yuslin et al., 2022). The dynamics of the CCI are caused by various macroeconomic factors that underwent significant changes during the pandemic, such as employment opportunities, income growth, inflation, interest rates, and overall economic stability (Pavithra & Velmurugan, 2023). One region in Indonesia with noticeably dynamic CCI is the Special Region of Yogyakarta (DIY). Within the 2018–2026 period, DIY's pre-pandemic CCI was relatively stable in the range of 120–151, reflecting high consumer optimism. However, in April 2020, the CCI fell sharply to 77.3 as a result of rising economic uncertainty, mobility restrictions, and an increase in layoffs, indicating a structural break in consumer confidence behavior.

This phenomenon is reinforced by the findings of Jumadi and Hayati (2022) showing that the COVID-19 pandemic had a negative and significant impact on DIY's economy, as seen in a 10% decrease in

Regional Original Revenue (PAD) in 2020. This differs from the view of (Naedi & Iksan, 2021) who argue that the COVID-19 pandemic did not significantly affect consumer confidence, but the number of COVID-19 deaths significantly affected business confidence, meaning the pandemic's impact differed between consumers and producers. Meanwhile, research by Lu and Bouraoui (2024) found that in the short term, interest rates, exchange rates, and government spending did not significantly affect the Consumer Confidence Index in China.

On the other hand, changes in interest rates influence consumer confidence through altered access to credit, decisions to save and spend, and levels of trust in the economy, which ultimately impact consumption expenditures across economic sectors (Bohan, 2024). According to (Monge et al., 2024), changes in the money supply do not affect consumer confidence in the United States, whereas increases in the inflation rate actually contribute to rising consumer confidence. Previous studies show that the Consumer Confidence Index (CCI) has a close relationship with the tourism sector. Increased consumer confidence has been shown to boost tourism demand and revenues, especially in the long run (Croce, 2017). Conversely, shocks or declines in consumer confidence triggered by economic uncertainty reduce tourism activities, both domestic and international visitor arrivals (Alola et al., 2023). Additionally, government economic support (income) received by society also affects CCI volatility during the pandemic (Gholipour et al., 2023).

Although the CCI shows a recovery trend in the post-pandemic period, this process is gradual and uneven. This indicates that the recovery of consumer confidence is influenced by various macroeconomic conditions. Based on this assumption, changes in interest rates, inflation, the number of tourists as an indicator of recovery in the tourism sector, adjustments in Provincial Minimum Wage (UMP), and the existence of the COVID-19 pandemic as a structural break are factors suspected of affecting CCI dynamics in DIY. Moreover, inconsistencies in previous research findings relating to the influence on CCI provide further justification for continued study to ensure accurate results. Analysis of CCI determinants is important in order to provide a comprehensive understanding of consumer confidence behavior. Additionally, the use of the Autoregressive Distributed Lag (ARDL) method in this study will examine the results more comprehensively than existing studies, as it provides short-term and long-term explanations in the model.

II. THEORETICAL FRAMEWORK AND EMPIRICAL STUDIES

life cycle hypothesis theory

The Life-Cycle Hypothesis (LCH), developed by Modigliani and Brumberg, posits that individuals make consumption and saving decisions by considering the distribution of economic resources over the course of their lifetimes (Modigliani & Brumberg, 1954; Modigliani & Ando, 1957). Individuals seek to smooth consumption by accumulating wealth when income is relatively high and drawing on accumulated resources when income declines (Deaton, 1992; Wijaya et al., 2020). Consumption decisions are inherently intertemporal and forward-looking, as households consider the total resources expected to be available over their lifetime (Deaton, 1992; Bai et al., 2023). Empirical evidence suggests that this principle remains relevant, although actual consumption behavior does not always fully conform to the consumption-smoothing hypothesis, as consumption responses to income changes may vary across households and depend on household-specific characteristics (Beblo & Schreiber, 2022). Contemporary interpretations of the LCH are therefore more appropriately understood as a foundational framework for explaining how households connect current economic conditions with expectations regarding future economic resources.

One important implication of the LCH is that expectations about future economic conditions can influence current economic decisions (Deaton, 1992; Foster, 2021). Uncertainty surrounding these expectations may induce households to become more myopic in their consumption decisions (Han et al., 2022). Recent evidence indicates that more positive expectations regarding future economic conditions can significantly reduce household saving rates by encouraging greater consumption of durable goods and increased participation in financial markets. These findings demonstrate that expectations are not merely a consequence of prevailing economic conditions but also constitute an important mechanism through which households' perceptions of the future are translated into current economic decisions.

The LCH provides a strong theoretical foundation for explaining why households' beliefs about future economic conditions may be associated with their current economic behavior (Ludvigson, 2004; Carroll et al., 1994; Cerchione et al., 2025). Consumer confidence reflects households' assessments of both current economic conditions and future economic prospects (Ludvigson, 2004). In Indonesia, consumer confidence has predictive power for household consumption expenditure, and incorporating consumer sentiment indicators can improve the economic and statistical accuracy of consumption forecasts (Juhro et al., 2020). The relevance of this mechanism is also evident when changes in income expectations, employment opportunities, inflation, and overall economic conditions are reflected in movements in the Consumer Confidence Index.

Empirical Studies

Empirical studies examining the relationship between the COVID-19 pandemic and consumer confidence have produced mixed findings, leaving room for further investigation at the regional level. Jumadi and Hayati (2022) demonstrate that the COVID-19 pandemic had a significant negative impact on the economy of the Special Region of Yogyakarta (DIY), as reflected in the decline in locally generated revenue (Pendapatan Asli Daerah, PAD) in 2020. This finding indicates that the pandemic constituted not only a public health shock but also exerted substantial pressure on economic activity and regional fiscal capacity. However, these findings contrast with Naedi and Iksan (2021), who found that the COVID-19 pandemic had no significant effect on consumer confidence, although the number of COVID-19-related deaths significantly affected business confidence. This divergence suggests that consumers and business actors do not necessarily respond identically to pandemic-related shocks, as they may differ in their mechanisms of expectation formation and risk perception.

Inconsistencies are also evident in the relationship between monetary conditions and consumer confidence. Bohan (2024) explains that changes in interest rates can influence consumer confidence regarding spending decisions. Theoretically, this mechanism suggests that higher borrowing costs and changes in the incentives to save may alter households' perceptions of their consumption capacity. However, Lu and Bouraoui (2024) find that, in the short run, interest rates, exchange rates, and government expenditure do not have significant effects on the Consumer Confidence Index in China. This finding suggests that the transmission of macroeconomic variables to consumer confidence does not necessarily occur immediately over the short term. Furthermore, Monge et al. (2024) find that changes in the money supply do not significantly affect consumer confidence in the United States, whereas higher inflation contributes to an increase in consumer confidence. These contrasting findings indicate that consumer confidence responses to monetary and price indicators may depend on economic structures, household expectations, and the time horizon adopted in the analysis.

Variation in empirical findings is also evident in the relationship between consumer confidence and tourism activity, which is particularly relevant to the Special Region of Yogyakarta given the importance of its tourism sector. Croce (2017) shows that higher consumer confidence can stimulate tourism demand and tourism revenues, particularly over the long term. Conversely, Alola et al. (2023) demonstrate that shocks to or declines in consumer confidence resulting from economic uncertainty can constrain tourism activity through reductions in both domestic travel and international tourist arrivals. These contrasting perspectives suggest that tourist arrivals should not be viewed solely as an outcome of changes in consumer confidence but may also constitute a factor influencing households' perceptions of economic conditions. Changes in tourist arrivals can generate broader economic effects that are subsequently reflected in movements in consumer confidence.

Beyond pandemic-related, monetary, and tourism factors, empirical evidence indicates that government economic support can also shape the dynamics of consumer confidence during periods of economic distress. Gholipour et al. (2023) show that economic support in the form of income received by households significantly affected the volatility of the Consumer Confidence Index during the pandemic. This finding reinforces the view that consumer confidence is determined not only by objective economic conditions but also by households' perceptions of the government's capacity to respond effectively to economic pressures.

Based on the divergent empirical findings discussed above, this study develops six hypotheses to examine the determinants of the Consumer Confidence Index (IKK) in the Special Region of Yogyakarta. First, an increase in the Bank Indonesia policy interest rate (SBI) is expected to reduce the IKK, as higher borrowing costs and stronger incentives to save may constrain household consumption and weaken households' perceptions of prevailing economic conditions (Bohan, 2024). Second, an appreciation of the Indonesian rupiah, represented by a decline in the exchange rate value, is expected to strengthen purchasing power and reduce price pressures on imported goods. Accordingly, given the exchange-rate specification employed in this study, a higher exchange rate value is hypothesized to have a negative effect on the IKK. Third, higher inflation is expected to reduce the IKK because rising prices erode real purchasing power and increase uncertainty surrounding households' economic conditions.

Fourth, an increase in the Regional Minimum Wage (UMR) is expected to enhance the IKK by increasing household income and consumption capacity. Fifth, an increase in tourist arrivals is expected to strengthen the IKK by stimulating regional economic activity, household income, and employment opportunities in regions with strong linkages to the tourism sector (Croce, 2017; Alola et al., 2023). Sixth, the COVID-19 period is expected to exert a negative effect on the IKK due to restrictions on economic activity, heightened uncertainty, and pressures on household income and regional economic conditions, although Naedi and Iksan (2021) find that the pandemic had no significant effect on consumer confidence. This divergence in empirical evidence provides a basis for further investigation within the specific regional and observation-period context examined in this study. Based on these theoretical and empirical arguments, the research hypotheses are formulated as follows (Figure 2):

H1: The Bank Indonesia policy interest rate (SBI) has a negative effect on the Consumer Confidence Index (IKK).

H2: The exchange rate (KURS) has a negative effect on the Consumer Confidence Index (IKK).

H3: Inflation has a negative effect on the Consumer Confidence Index (IKK).

H4: The Regional Minimum Wage (UMR) has a positive effect on the Consumer Confidence Index (IKK).

H5: The number of tourist arrivals has a positive effect on the Consumer Confidence Index (IKK).

H6: The COVID-19 dummy variable has a negative effect on the Consumer Confidence Index (IKK).

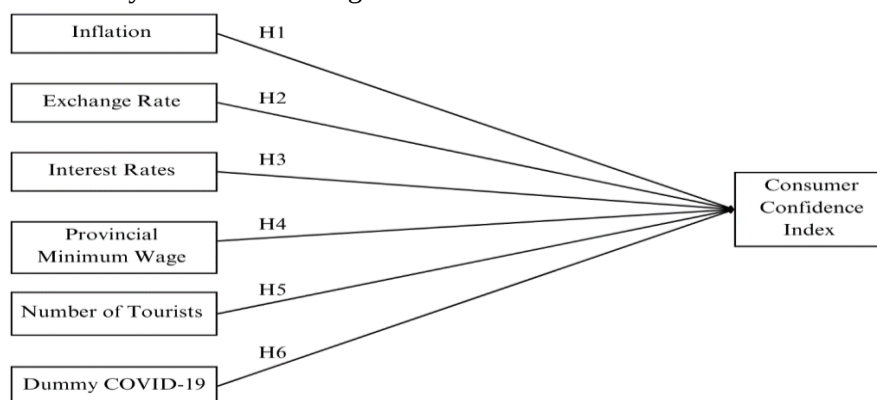


Fig. 1. Conceptual Framework Model

III. RESEARCH METHODS

This study employs a quantitative approach with Autoregressive Distributed Lag (ARDL) analysis to examine the determinants of the Consumer Confidence Index (IKK) in the Special Region of Yogyakarta during the period 2018–2025 using time series data. The quantitative approach was chosen because it can objectively test causal relationships between economic variables through econometric analysis based on empirical data (Gujarati & Porter, 2009; Wooldridge, 2018). This research utilizes monthly secondary data sourced from official publications by Badan Pusat Statistik (BPS), Bank Indonesia (BI), and relevant agencies. The Autoregressive Distributed Lag (ARDL) method was chosen because it is capable of simultaneously estimating both short-term and long-term relationships in time series data comprising a combination of variables integrated at order $I(0)$ and $I(1)$, without requiring all variables to have the same

order of integration, as long as none are integrated at order I(2) (Holian, 2026; Pesaran et al., 2001). In addition, the ARDL model is considered more efficient for relatively small sample sizes and can generate unbiased long-term estimates (Nkoro & Uko, 2016; Pesaran et al., 2001).

Table 1. Research Variables

Variabel	Ukuran	Sumber Data
Consumer Confidence Index (IKK)	CCI >100 indicates optimism CCI <100 indicates pessimism	Bank Indonesia
Inflation (INFLASI)	Monthly inflation rate (% <i>month-to-month</i>)	Badan Pusat Statistik (BPS)
Exchange Rate (KURS)	Exchange rate of the rupiah against the U.S. dollar (IDR/USD)	Bank Indonesia
Interest Rates (SBI)	BI 7-Day Reverse Repo Rate (% year)	Bank Indonesia
Provincial Minimum Wage (UMP)	Provincial Minimum Wage in the Special Region of Yogyakarta (Rupiah/month)	Badan Pusat Statistik (BPS)
Number of Tourists (NT)	Number of domestic and international tourist visits to the Special Region of Yogyakarta (people/month)	Badan Pusat Statistik (BPS)
Dummy COVID-19 (COVID)	Dummy variable: 0 = pre-pandemic 1 = during and after the pandemic	Constructed by the author

Source: Data processed by the author, (2026)

The analysis stage begins with a stationarity test using the Augmented Dickey-Fuller (ADF) Test to determine the order of integration for each variable, followed by selecting the optimal lag length based on information criteria such as the Akaike Information Criterion (AIC) (Kripfganz & Schneider, 2018). Next, the Bounds Test is conducted to examine the existence of long-term relationships (cointegration) among the variables (Nkoro & Uko, 2016; Wooldridge, 2018). If the F-statistic value exceeds the upper bound value, this indicates the presence of cointegration, allowing for the estimation of long-run coefficients and short-run dynamics through the ARDL model. Subsequently, model validity is evaluated through a series of diagnostic tests, including tests for normality, heteroskedasticity, autocorrelation, and model specification (Pesaran et al., 2001; Wooldridge, 2018). All data processing is performed using the EViews 13 software, while operational definitions and data sources for each research variable are presented Table 1.

IV. DATA ANALYSIS AND DISCUSSIONS

Table 2 shows that the Consumer Confidence Index (CCI) in the Special Region of Yogyakarta has an average value of 125.43, with a minimum of 77.30 and a maximum of 151.00, indicating that overall consumer confidence is categorized as optimistic (CCI > 100). However, the standard deviation of 17.04 indicates a rather high fluctuation in consumer confidence during the observation period, mainly influenced by changes in economic conditions and shocks resulting from the COVID-19 pandemic. The COVID variable has an average of 0.625, meaning that approximately 62.5% of the total observations were during the pandemic period, so the research data can proportionally represent conditions both before and during the pandemic.

Table 2. Descriptive Statistics

Variables	Mean	Maximum	Minimum	Std. Dev.	Observations
IKK	125.4267	151	77.3	17.04346	96
COVID	0.625	1	0	0.486664	96
INFLASI	0.242917	1.67	-0.86	0.351316	96
JW	1,762,555	3,115,497	337,119	711,739.40	96
KURS	14,973.53	16,680	13,386	894.7264	96
SBI	4.960938	6.25	3.5	0.981626	96
UMP	1,838,420	2,264,080	1,454,154	257,984	96

Source: Data processed by the author, (2026)

Meanwhile, the inflation rate averaged 0.24%, with a relatively low standard deviation of 0.35, indicating that inflation in the Special Region of Yogyakarta tended to remain stable throughout the observation period, despite experiencing a minimum rate of -0.86% (deflation) and a maximum rate of 1.67% . The number of workers (JW) averaged approximately 1.76 million people, with a standard deviation of around 711 thousand, reflecting substantial labor market dynamics over the study period, particularly due to the decline in economic activity during the pandemic and the subsequent economic recovery. Meanwhile, the Indonesian rupiah exchange rate (KURS) averaged Rp14,973.53 per US dollar, with a standard deviation of Rp894.73, indicating moderate exchange rate volatility throughout the observation period.

On the other hand, the Bank Indonesia policy interest rate (SBI) averaged 4.96%, ranging from 3.50% to 6.25%, reflecting adjustments in monetary policy in response to evolving inflationary pressures and economic growth. Meanwhile, the Provincial Minimum Wage (UMP) averaged Rp1.84 million, with a minimum value of Rp1.45 million and a maximum of Rp2.26 million, and a standard deviation of approximately Rp257 thousand. This pattern indicates a gradual upward trend in the minimum wage throughout the study period, reflecting efforts to maintain households' purchasing power. Overall, the descriptive statistics indicate that all variables exhibit sufficient variation without excessive dispersion, thereby adequately capturing the dynamics of macroeconomic conditions in the Special Region of Yogyakarta during 2018–2025 and providing a sound empirical basis for further analysis using the ARDL model.

Table 3. Result of Unit Test in Level & First Difference

Variables	Augmented Dickey-Fuller	
	Level	First Difference
IKK	-2.923455 (0.0469)**	-9.240103 (0.0000)***
COVID	-1.427114 (0.5652)	-8.944272 (0.0000)***
INFLASI	-7.195854 (0.0000***)	-11.78563 (0.0001)***
JW	-4.00862 (0.0022)***	-12.46343 (0.0001)***
KURS	-1.706826 (0.4241)	-8.268189 (0.0000)***
SBI	-1.615717 (0.4701)	-4.455449 (0.0005)***
UMP	-0.563239 (0.8721)	-1.918696 (0.0000)***

Source: Data processed by the author, (2026)

Notes:

The *P*-value is in parentheses.

*, **, and ***, shows a level of significance of 10%, 5%, and 1% respectively.

H0: Variable has a unit root.

The results of the Augmented Dickey–Fuller (ADF) unit root test presented in Table 3 indicate that not all variables are stationary at the level. The Consumer Confidence Index (IKK), inflation (INFLASI), and the number of workers (JW) have probability values of 0.0469, 0.0000, and 0.0022, respectively, which are lower than the 5% significance level. Accordingly, these three variables are considered stationary at level, or integrated of order $I(0)$. In contrast, the COVID, exchange rate (KURS), Bank Indonesia policy interest rate (SBI), and Provincial Minimum Wage (UMP) variables are non-stationary at level. After first differencing, all variables become stationary at the first difference, indicating that they are integrated of order $I(1)$.

These findings demonstrate that the dataset comprises a combination of variables integrated at orders $I(0)$ and $I(1)$, with none of the variables being integrated at order $I(2)$. This condition satisfies one of the key

prerequisites for applying the Autoregressive Distributed Lag (ARDL) approach, which allows for the estimation of models involving a mixture of I(0) and I(1) variables, provided that no variable is integrated at I(2) (Hazam & Jatipanigum, 2022; Pesaran et al., 2001).

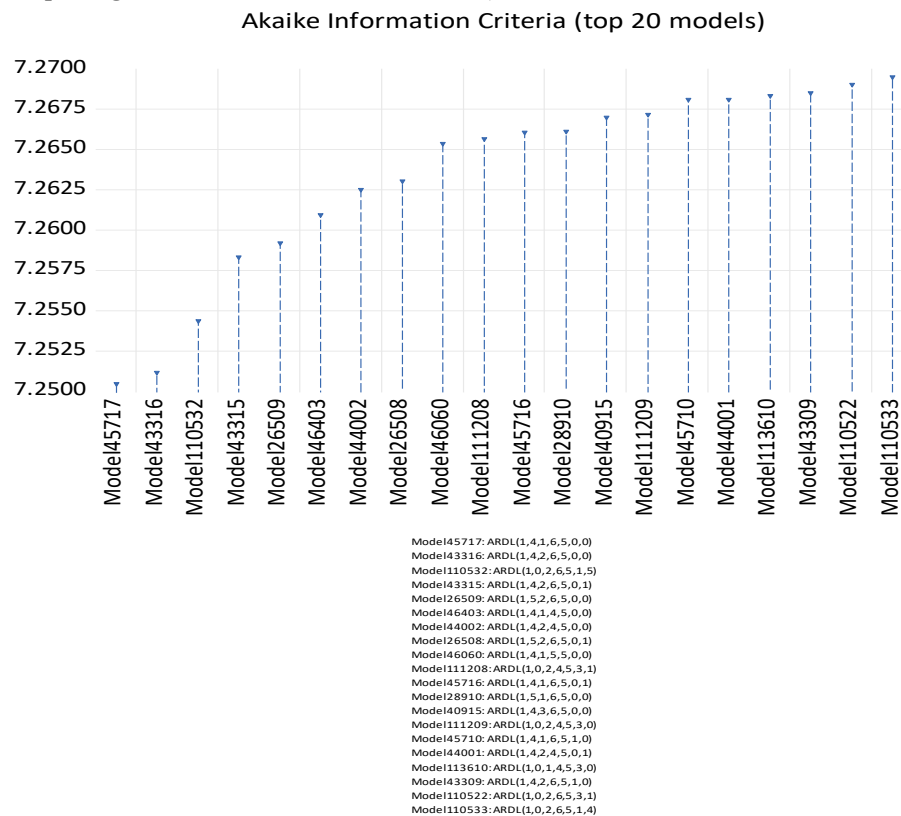


Fig 2. Lag Length Selection Summary

Source: Data processed by the author, (2026)

Figure 1 shows the results of selecting the optimal lag length using the Akaike Information Criterion (AIC) in the Autoregressive Distributed Lag (ARDL) model. Based on the AIC criterion, the best model is ARDL (1,4,1,6,5,0,0), which has the lowest AIC value compared to the other 20 model specifications. In the ARDL approach, the model with the smallest AIC value is selected because it provides the best balance between goodness of fit and model complexity, thereby producing more efficient estimates and reducing the risk of overfitting (Pesaran & Shin, 2012).

Table 4. Bounds Test Results

F-Statistic	K	Level of Significant	Critical Bounds		Remarks
			Lower Bound I(0)	Upper Bound I(1)	
ARDL Model (1,4,1,6,5,0,0)					
4.117585	6	10%	2.244	3.397	Cointegrated
		5%	2.637	3.900	Cointegrated
		1%	3.496	4.966	Incointegrated

Source: Data processed by the author, (2026)

Note:

K denotes the number of independent variables.

H0: No cointegration.

The results of the bounds test (Table 4) show an F-statistic value of 4.1176. At significance levels of 10% and 5%, the F-statistic value is greater than the upper bound I(1), which are 3.397 and 3.900, respectively. These results indicate that there is a long-run equilibrium relationship (cointegration) between the Consumer Confidence Index (CCI) and the independent variables in this study. Although at the 1% significance level the F-statistic value of 4.1176 is still below the upper bound of 4.966, it does not yet meet the cointegration criteria at a stricter significance level. However, the presence of cointegration at the 5%

significance level supports the conclusion of a long-term relationship in accordance with the Autoregressive Distributed Lag approach (Pesaran & Shin, 2012).

Table 5. Estimated ARDL

Dependent Variable: IKK	ARDL Model (1, 3, 1, 6, 5, 0, 0)
IKK(-1)	0.807258 (0.0000)***
COVID	-9.044628 (0.142956)
INFLASI(-1)	7.267325 (0.01430)
D(JW)	21.77692 (0.0001)***
D(KURS(-5))	-142.31140 (0.0017)***
D(SBI)	1.37097 (0.86024)
D(UMP)	-82.24045 (0.21772)
C	21.75794 (0.0144)***

Source: Data processed by the author, (2026)

Notes:

The P-value is in parentheses.

*, **, and ***, shows a level of significance of 10%, 5%, and 1% respectively.

Table 5 presents the estimation results of the ARDL (1,4,1,6,5,0,0) model, indicating a high degree of persistence in the Consumer Confidence Index (IKK). This is reflected in the coefficient of IKK(-1), which is 0.807258 and statistically significant at the 1% level, with a probability value of 0.0000. This finding indicates that consumer confidence in the previous period (one month earlier) is a major determinant of current consumer confidence, suggesting that changes in public perceptions tend to occur gradually rather than instantaneously. From the perspective of the *Life Cycle Hypothesis* proposed by Modigliani and Brumberg (2013), household consumption behavior is influenced not only by current income but also by expectations regarding permanent income and future economic conditions. Consequently, perceptions formed in previous periods tend to serve as an important basis for subsequent consumption decisions.

The high persistence of IKK suggests that households form expectations gradually, whereby information concerning economic conditions, income stability, and future economic prospects is continuously internalized before households adjust their consumption patterns (Carroll et al., 1994; Lieb & Schuffels, 2022; Ludvigson, 2004). This finding is also consistent with previous studies demonstrating that consumer confidence possesses substantial predictive power for consumption behavior (Bram & Ludvigson, 1998; Ghosh, 2021; Juhro & Iyke, 2020). The Consumer Confidence Index exhibits a highly persistent characteristic because household expectations are formed through the accumulation of economic information from previous periods. As a result, changes in economic policies generally require time before they can significantly alter public perceptions and expectations (Dinh, 2025; Fuhrer, 1993).

The estimation results indicate that the COVID-19 variable does not have a statistically significant effect on the Consumer Confidence Index (IKK), with a probability value of 0.142956. This finding can be explained through the *Life-Cycle Hypothesis*, which suggests that during a pandemic, households may engage in *consumption smoothing* by adjusting savings, drawing on accumulated assets, or reallocating expenditures to maintain consumption levels in response to temporary income shocks (Browning & Crossley, 2001; Liu & Hu, 2013). This argument is consistent with Hodbod et al. (2021), who found that the

impact of a pandemic on consumer confidence depends substantially on the severity of the pandemic and the extent of government economic support provided to households. Similarly, Rooj et al. (2026) demonstrate that the effects of COVID-19 on consumer confidence are not homogeneous, as they depend on how individuals perceive current economic conditions and future prospects. The insignificant effect of COVID-19 on the IKK in the Special Region of Yogyakarta may therefore indicate that households were relatively capable of absorbing the pandemic shock through adaptive consumption mechanisms (Browning & Crossley, 2001; Modigliani & Cao, 2004; Murti et al., 2023). This finding does not imply that COVID-19 had no economic consequences; rather, its effects were insufficiently strong to induce a statistically significant shift in the IKK during the study period (Gholipour et al., 2023).

Meanwhile, inflation at the first lag has a positive and statistically significant effect on the IKK, with a coefficient of 7.267325 and a probability value of 0.0143. This result suggests that an increase in inflation, when maintained at a relatively moderate and manageable level, may be perceived as a signal of strengthening economic activity and aggregate demand (Alif et al., 2025). From the perspective of the *Life-Cycle Hypothesis*, household consumption decisions are based on expectations concerning lifetime resources; therefore, when inflation remains within a tolerable range, households tend to maintain their consumption levels (Jappelli & Padula, 2017). From a macroeconomic perspective, moderate inflation can serve as a positive signal of improving economic conditions, thereby strengthening consumer confidence in both household and national economic prospects (Malovaná et al., 2021; Prawoto, 2025). This finding is consistent with Tjandrasa and Dewi (2022), who demonstrate that inflation in Indonesia does not necessarily exert a negative effect on the Consumer Confidence Index, particularly when inflation remains relatively stable. In addition, Duca-Radu et al. (2021) show that inflation expectations may stimulate household consumption through an intertemporal mechanism, whereby consumers bring forward purchases in anticipation of further price increases.

The number of tourists also exerts a positive and statistically significant effect on the IKK, with a coefficient of 21.77692 and a probability value of 0.0001. This finding indicates that an increase in both domestic and international tourist arrivals contributes to stronger consumer confidence by stimulating purchasing power and economic activity in the tourism sector (Dogru et al., 2020). From the perspective of the *Life-Cycle Hypothesis*, an increase in tourist arrivals can generate greater employment opportunities, higher business revenues, and improved regional economic prospects. These developments may strengthen households' expectations regarding permanent income and, ultimately, enhance consumer confidence (De Nardi et al., 2020). From a regional economic perspective, tourism generates a substantial *multiplier effect* by increasing demand across various supporting sectors, including trade, transportation, accommodation, food services, and other service industries (Brida et al., 2020).

These findings are consistent with Dogru et al. (2020), who demonstrate that the development of the tourism sector contributes positively to economic growth through increased consumption, investment, and employment opportunities. Arezki and Nguyen (2020) further show that the recovery of tourism activity plays an important role in strengthening economic agents' confidence and accelerating the recovery of household consumption, particularly in regions that rely heavily on the service sector. The increase in tourist mobility following the pandemic has also generated positive effects on local economic activity (Wibowo & Hariadi, 2024; Widiyanti & Dewanti, 2017). The findings of this study therefore reinforce the argument that an increase in tourist arrivals serves as a positive signal of households' income prospects, supporting the hypothesis that the number of tourists has a positive effect on the Consumer Confidence Index (IKK).

In contrast, the rupiah exchange rate at the fifth lag has a negative and statistically significant effect on the IKK, with a coefficient of -142.31140 and a probability value of 0.0017. This finding suggests that currency depreciation tends to weaken consumer confidence after a certain time lag, primarily through higher import costs, increased inflationary pressures, and greater economic uncertainty (Sabu & Ramachandran, 2026; Sein & Sah, 2025). A prolonged depreciation of the exchange rate increases uncertainty surrounding future real income and purchasing power, prompting households to adopt more cautious consumption behavior and lowering their confidence in future economic prospects (Beckmann & Czudaj, 2025; Yuliadi et al., 2024).

Exchange rate depreciation can also increase the prices of imported inputs used in domestic production, particularly in regions with relatively high dependence on imported goods and sectors such as trade and tourism, as is the case in the Special Region of Yogyakarta (IMF, 2023). This finding is consistent with Sein and Sah (2025), who demonstrate that exchange rate volatility increases economic uncertainty and weakens consumer confidence. Similarly, Sabu and Ramachandran (2026) find that exchange rate shocks are transmitted gradually to inflation expectations and household sentiment, implying that their effects on consumer confidence do not materialize immediately. Overall, these findings reinforce the argument that exchange rate depreciation can undermine consumer confidence, thereby supporting the hypothesis that the exchange rate has a negative effect on the Consumer Confidence Index (IKK).

On the other hand, the Bank Indonesia policy interest rate (SBI) and the Provincial Minimum Wage (UMP) do not exhibit statistically significant effects on the IKK, as reflected in their respective probability values of 0.9317 and 0.2177. This finding indicates that changes in the policy interest rate and adjustments to the minimum wage did not directly influence consumer perceptions during the study period. From the perspective of the *Life-Cycle Hypothesis*, changes in interest rates or increases in the minimum wage do not necessarily translate into stronger consumer confidence when households do not perceive these changes as capable of improving their long-term economic well-being (Elva Dona et al., 2022; Kaplan et al., 2018). The insignificant effect of the interest rate also suggests that the transmission of monetary policy to consumer sentiment may operate indirectly through credit, investment, inflation, and labor market channels. Changes in the BI Rate are not necessarily reflected immediately in household responses, particularly in regions characterized by a substantial informal sector and microenterprises with relatively limited reliance on formal credit (Bohan, 2024; Coibion et al., 2021).

Meanwhile, the insignificant effect of the UMP suggests that increases in the minimum wage have not translated into stronger consumer confidence because their benefits are primarily received by formal-sector workers. A substantial proportion of households, however, derive their income from informal employment, self-employment, or occupations with wage-setting mechanisms that do not directly follow minimum-wage policies. Consequently, increases in the UMP may not be sufficient to raise aggregate household income expectations (Merdikawati & Izzati, 2025). This finding is consistent with Giupponi et al. (2024), who argue that household expectations regarding economic conditions are influenced more strongly by income prospects, employment stability, and economic uncertainty than by changes in monetary policy instruments (Del Carpio et al., 2015; Lariau & Liu, 2022). The welfare effects of minimum-wage increases are also highly dependent on labor-market structures and the proportion of workers who actually benefit from the policy. Therefore, the findings lead to the rejection of the hypothesis that SBI has a negative effect on the IKK, as well as the hypothesis that the Provincial Minimum Wage (UMP) has a positive effect on the IKK, because neither variable exhibits a statistically significant effect on consumer confidence in the Special Region of Yogyakarta during the study period.

IV. CONCLUSIONS, RECOMMENDATIONS, AND LIMITATIONS

This study aims to examine the effects of the COVID-19 pandemic, inflation, tourist arrivals, the exchange rate, the Bank Indonesia policy interest rate (SBI), and the Provincial Minimum Wage (UMP) on the Consumer Confidence Index (IKK) in the Special Region of Yogyakarta using the Autoregressive Distributed Lag (ARDL) approach. The findings reveal a high degree of persistence in the IKK, indicating that consumer confidence in the previous period is an important determinant of current consumer optimism. The exchange rate exerts a negative and statistically significant effect on the IKK, whereas inflation and tourist arrivals have positive and statistically significant effects. In contrast, the COVID-19 pandemic, the Bank Indonesia policy interest rate (SBI), and the Provincial Minimum Wage (UMP) do not exhibit statistically significant effects on the IKK, suggesting that changes in these variables were insufficient to directly alter consumer perceptions during the study period. These findings provide support for the **Life-Cycle Hypothesis**, which posits that consumption decisions and consumer confidence are shaped more strongly by expectations regarding permanent income and future economic prospects than by temporary economic fluctuations. Accordingly, efforts to strengthen consumer confidence in the Special Region of

Yogyakarta should focus on maintaining macroeconomic stability, strengthening the tourism sector, keeping inflation at a conducive level, and safeguarding exchange rate stability to foster more optimistic and sustainable economic expectations among households.

Acknowledgment

The authors would like to express their sincere gratitude to all individuals and institutions who provided valuable support throughout the completion of this study. The authors are also grateful to the academic colleagues and research participants who contributed constructive insights, discussions, and assistance during the research process. Their support and contributions were valuable in the development and completion of this article.

REFERENCES

- [1]. Affandi, A., Sarwani, Sobarna, A., Erlangga, H., Siagian, A. O., Purwanto, A., Effendy, A. A., Sunarsi, D., Wicaksono, W., Suyatin, Ariyanti, E., Wahyitno, Manik, C. D., Juhaeri, & Gunartin. (2020). Optimization of MSMEs empowerment in facing competition in the global market during the COVID-19 pandemic time. *Systematic Reviews in Pharmacy*, 11(11). <https://doi.org/10.31838/srp.2020.11.213>
- [2]. Alam, M. M., Fawzi, A. M., Islam, M. M., & Said, J. (2022). Impacts of COVID-19 pandemic on national security issues: Indonesia as a case study. *Security Journal*, 35(4). <https://doi.org/10.1057/s41284-021-00314-1>
- [3]. Alif, P. F. K., Ajija, S. R., Fitriyana, Z., & Setyorini, W. (2025). How the Consumer Confidence Index Affect the Credit Growth in Indonesia? *Jurnal Ilmu Ekonomi Terapan*, 10(1). <https://doi.org/10.20473/jiet.v10i1.72079>
- [4]. Alola, U. V., Baeva, D., & Alola, A. A. (2023). Determining the (A)symmetric Role of Business–Consumer Confidence in Outward–Inward Tourism in Russia: A Competitiveness Perspective. *International Journal of Global Business and Competitiveness*, 18(1). <https://doi.org/10.1007/s42943-023-00077-z>
- [5]. Arezki, R., & Nguyen, H. (2020). Novel coronavirus hurts the Middle East and North Africa through many channels. *Economics in the Time of COVID-19*.
- [6]. Bai, L., Guo, T., Xu, W., Liu, Y., Kuang, M., & Jiang, L. (2023). Effects of digital economy on carbon emission intensity in Chinese cities: A life-cycle theory and the application of non-linear spatial panel smooth transition threshold model. *Energy Policy*, 183, 113792.
- [7]. Banna, M. H. Al, Sayeed, A., Kundu, S., Christopher, E., Hasan, M. T., Begum, M. R., Kormoker, T., Dola, S. T. I., Hassan, M. M., Chowdhury, S., & Khan, M. S. I. (2022). The impact of the COVID-19 pandemic on the mental health of the adult population in Bangladesh: a nationwide cross-sectional study. *International Journal of Environmental Health Research*, 32(4). <https://doi.org/10.1080/09603123.2020.1802409>
- [8]. Beblo, M., & Schreiber, S. (2022). Leisure and housing consumption after retirement: New evidence on the life-cycle hypothesis. *Review of Economics of the Household*, 20, 305–330.
- [9]. Beckmann, J., & Czudaj, R. L. (2025). Fundamental determinants of exchange rate expectations. *International Journal of Forecasting*, 41(3). <https://doi.org/10.1016/j.ijforecast.2024.09.004>
- [10]. Bohan, L. (2024). The Impact of Interest Rates on Consumer Spending Behavior. *Academic Journal of Business & Management*, 6(12). <https://doi.org/10.25236/ajbm.2024.061210>
- [11]. Bram, J., & Ludvigson, S. (1998). Does consumer confidence forecast household expenditure? a sentiment index horse race. *Economic Policy Review*.
- [12]. Browning, M., & Crossley, T. F. (2001). The life-cycle model of consumption and saving. *In Journal of Economic Perspectives* (Vol. 15, Number 3). <https://doi.org/10.1257/jep.15.3.3>
- [13]. Carroll, C. D., Fuhrer, J. C., & Wilcox, D. W. (1994). Does consumer sentiment forecast household spending? If so, why? *The American Economic Review*, 84(5).
- [14]. Cerchione, R., Morelli, M., Passaro, R., & Quinto, I. (2025). A critical analysis of the integration of life cycle methods and quantitative methods for sustainability assessment. *Corporate Social Responsibility and Environmental Management*, 32(2), 1508-1544.
- [15]. Coibion, O., Gorodnichenko, Y., & Weber, M. (2021). Labor Markets During the Covid-19 Crisis: A Preliminary View. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3584089>

- [16]. Croce, V. (2017). Business Confidence and International Tourism Demand: Evidence from a Global Panel of Experts. *Global Journal of Management and Business Research*, 16(1).
- [17]. De Nardi, M., Fella, G., & Paz-Pardo, G. (2020). Nonlinear Household Earnings Dynamics, Self-Insurance, and Welfare. *Journal of the European Economic Association*, 18(2). <https://doi.org/10.1093/jeea/jvz010>
- [18]. Deaton, A. (1992). Understanding consumption. Clarendon Press.
- [19]. Del Carpio, X., Nguyen, H., Pabon, L., & Wang, L. C. (2015). Do minimum wages affect employment? Evidence from the manufacturing sector in Indonesia. *IZA Journal of Labor and Development*, 4(1). <https://doi.org/10.1186/s40175-015-0040-8>
- [20]. Dima, A. U., Setyawan, Y., Bakti, R. D., & Astuti, F. (2024). PENGKLASIFIKASIAN INDEKS KEYAKINAN KONSUMEN DI INDONESIA TAHUN 2022 MENGGUNAKAN METODE SUPPORT VECTOR MACHINE. *Jurnal Statistika Industri Dan Komputasi*, 9(2). <https://doi.org/10.34151/statistika.v9i2.4852>
- [21]. Dinh, V. H. (2025). The role of consumer sentiment in the transmission of monetary policy to consumer expenditure. *Economica*, 92(367). <https://doi.org/10.1111/ecca.12576>
- [22]. Dogru, T., Bulut, U., Kocak, E., Isik, C., Suess, C., & Sirakaya-Turk, E. (2020). The nexus between tourism, economic growth, renewable energy consumption, and carbon dioxide emissions: contemporary evidence from OECD countries. *Environmental Science and Pollution Research*, 27(32). <https://doi.org/10.1007/s11356-020-10110-w>
- [23]. Duca-Radu, I., Kenny, G., & Reuter, A. (2021). Inflation expectations, consumption and the lower bound: Micro evidence from a large multi-country survey. *Journal of Monetary Economics*, 118. <https://doi.org/10.1016/j.jmoneco.2020.03.005>
- [24]. Elva Dona, Habibatul Hidayati, Khairil Aswan, Rusdandi Oktavian, & Irwan Muslim. (2022). *Berpengaruhkah Jumlah Uang Beredar*, Suku Bunga, Ekspor dan Impor terhadap Inflasi di Indonesia? *Jurnal Ekobistek*. <https://doi.org/10.35134/ekobistek.v11i4.411>
- [25]. Foster, J. (2021). The US consumption function: a new perspective: J. Foster. *Journal of Evolutionary Economics*, 31(3), 773-798.
- [26]. Fournier, A., Laurent, A., Lheureux, F., Ribeiro-Marthoud, M. A., Ecartot, F., Binquet, C., & Quenot, J. P. (2022). Impact of the COVID-19 pandemic on the mental health of professionals in 77 hospitals in France. *PLoS ONE*, 17(2 February). <https://doi.org/10.1371/journal.pone.0263666>
- [27]. Fuhrer, J. C. (1993). What role does consumer sentiment play in the U.S. macroeconomy? *New England Economic Review*.
- [28]. Gholipour, H. F., Tajaddini, R., & Farzanegan, M. R. (2023). Governments' economic support for households during the COVID-19 pandemic and consumer confidence. *Empirical Economics*, 65(3), 1253–1272. <https://doi.org/10.1007/s00181-023-02367-0>
- [29]. Ghosh, S. (2021). Consumer Confidence and Consumer Spending in Brazil: A Nonlinear Autoregressive Distributed Lag Model Analysis. Arthaniti: *Journal of Economic Theory and Practice*, 20(1). <https://doi.org/10.1177/0976747919898906>
- [30]. Giupponi, G., Joyce, R., Lindner, A., Waters, T., Wernham, T., & Xu, X. (2024). The Employment and Distributional Impacts of Nationwide Minimum Wage Changes. *Journal of Labor Economics*, 42(S1). <https://doi.org/10.1086/728471>
- [31]. Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics. Fourth Edition. *In The Economic Journal* (Vol. 82, Number 326).
- [32]. Han, L., Liu, X., & Ma, S. (2023). The influence of uncertain expectations on Chinese rural residents' consumer behavior decisions: Theoretical analysis and empirical test. *Frontiers in Psychology*, 13, 1052962.
- [33]. Hazam, D., & Jatipaningrum, M. T. (2022). Penerapan Autoregressive Distributed Lag (ARDL) Dalam Memodelkan Pengaruh Indeks Harga Konsumen (IHK) Terhadap Inflasi Di Kota Yogyakarta. *Jurnal Statistika Industri Dan Komputasi*, 7(1).
- [34]. Hodbod, A., Hommes, C., Huber, S. J., & Salle, I. (2021). The COVID-19 consumption game-changer: Evidence from a large-scale multi-country survey. *European Economic Review*, 140. <https://doi.org/10.1016/j.euroecorev.2021.103953>
- [35]. Holian, M. J. (2026). Replicate and Extend: An Approach for Term Paper Assignments in Introductory Econometrics. *American Economist*, 71(1). <https://doi.org/10.1177/05694345251334557>
- [36]. IMF. (2023). World Economic Outlook 2023: Navigating Global Divergences. In *Imf*.
- [37]. Jappelli, T., & Padula, M. (2017). Consumption growth, the interest rate, and financial sophistication. *Journal of Pension Economics and Finance*, 16(3). <https://doi.org/10.1017/S147474721600010X>

- [38]. Juhro, S. M., & Iyke, B. N. (2020). Consumer confidence and consumption expenditure in Indonesia. *Economic Modelling*, 89. <https://doi.org/10.1016/j.econmod.2019.11.001>
- [39]. Juhro, S. M., & Iyke, B. N. (2020). Consumer confidence and consumption expenditure in Indonesia. *Economic Modelling*, 89, 367-377.
- [40]. Kaplan, G., Moll, B., & Violante, G. L. (2018). Monetary policy according to HANK. In *American Economic Review* (Vol. 108, Number 3). <https://doi.org/10.1257/aer.20160042>
- [41]. Kripfganz, S., & Schneider, D. C. (2018). ARDL : Estimating autoregressive distributed lag and equilibrium correction models. London Stata Conference September 7, 2018, (April).
- [42]. Lariou, A., & Liu, L. Q. (2022). Inequality in the Spanish Labor Market During the COVID-19 Crisis. *IMF Working Papers*, 2022(018). <https://doi.org/10.5089/9798400201059.001>
- [43]. Lieb, L., & Schuffels, J. (2022). Inflation expectations and consumer spending: the role of household balance sheets. *Empirical Economics*, 63(5). <https://doi.org/10.1007/s00181-022-02222-8>
- [44]. Liu, S., & Hu, A. (2013). Household saving in china: The keynesian hypothesis, life-cycle hypothesis, and precautionary saving theory. *Developing Economies*, 51(4). <https://doi.org/10.1111/deve.12026>
- [45]. Lu, S., & Bouraoui, T. (2024). Factors impacting consumer confidence: Evidence from China. In *Advances in Consumer Research* (Vol. 2024, Number 1). <https://acr-journal.com/>
- [46]. Ludvigson, S. C. (2004). Consumer confidence and consumer spending. *Journal of Economic Perspectives*, 18(2). <https://doi.org/10.1257/0895330041371222>
- [47]. Ludvigson, S. C. (2004). Consumer confidence and consumer spending. *Journal of Economic Perspectives*, 18(2), 29–50.
- [48]. Malovaná, S., Hodula, M., & Frait, J. (2021). What Does Really Drive Consumer Confidence? *Social Indicators Research*, 155(3). <https://doi.org/10.1007/s11205-021-02626-6>
- [49]. Merdikawati, N., & Izzati, R. Al. (2025). Minimum Wage Policy and Poverty in Indonesia. *World Bank Economic Review*, 39(1). <https://doi.org/10.1093/wber/lhae022>
- [50]. Modigliani, F., & Ando, A. K. (1957). Tests of the life cycle hypothesis of savings: Comments and suggestions. *Bulletin of the Oxford University Institute of Economics & Statistics*, 19(2), 99–124.
- [51]. Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In K. K. Kurihara (Ed.), *Post-Keynesian economics* (pp. 388–436). Rutgers University Press.
- [52]. Modigliani, F., & Brumberg, R. (2013). Utility analysis and the consumption function: An interpretation of cross-section data. In *Post Keynesian Economics*. <https://doi.org/10.4324/9781315016849>
- [53]. Modigliani, F., & Cao, S. L. (2004). The Chinese Saving Puzzle and the Life-Cycle Hypothesis. *Journal of Economic Literature*, 42(1). <https://doi.org/10.1257/42.1.145>
- [54]. Monge, M., Lazcano, A., & Infante, J. (2024). Monetary policy and inflation rate in the behavior of consumer sentiment in the us. A fractional integration and cointegration analysis. *Research in Economics*, 78(3). <https://doi.org/10.1016/j.rie.2024.100981>
- [55]. Murti, P. P. I., Siregar, H., & Sugema, I. (2023). Impacts of Covid-19 Pandemics and Wealth on Household Consumption in Java Island. Signifikan: *Jurnal Ilmu Ekonomi*, 12(2). <https://doi.org/10.15408/sjie.v12i2.32336>
- [56]. Naedi, S., & Iksan, M. (2021). The Impact of Covid-19 Pandemic on Indonesian Consumer and Business Confidence Indicator. In *Jurnal Manajemen dan Bisnis Madani* (Vol. 3, Number 2). <https://ourworldindata.org/coronavirus/country/indonesia>
- [57]. Nkoro, E., & Uko, A. K. (2016). Autoregressive Distributed Lag (ARDL) cointegration technique: application and interpretation. *Journal of Statistical and Econometric Methods*, 5(4).
- [58]. Pavithra, M., & Velmurugan, R. (2023). Factors associated with consumer confidence. *E3S Web of Conferences*, 449. <https://doi.org/10.1051/e3sconf/202344904013>
- [59]. Pesaran, M. H., & Shin, Y. (2012). An Autoregressive Distributed-Lag Modelling Approach to Cointegration Analysis. In *Econometrics and Economic Theory in the 20th Century*. <https://doi.org/10.1017/ccol521633230.011>
- [60]. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3). <https://doi.org/10.1002/jae.616>
- [61]. Prawoto, N. (2025). Macroeconomic Determinants of Per Capita Consumption in Indonesia: Evidence from 1990–2023 Using an ECM Framework. *Riwayat: Educational Journal of History and Humanities*, 8(2). <https://doi.org/10.24815/jr.v8i2.45505>

- [62]. Rooj, D., Banerjee, A., & Sengupta, R. (2026). COVID-19 and Consumer Confidence: Evidence from India. Arthaniti: **Journal of Economic Theory and Practice**, 25(1). <https://doi.org/10.1177/09767479231197688>
- [63]. Sabu, S., & Ramachandran, M. (2026). On the dynamics of exchange rates and inflation expectations. Applied Economics, 58(28). <https://doi.org/10.1080/00036846.2025.2508520>
- [64]. Sein, P., & Sah, A. N. (2025). Export dynamics, exchange rate volatility, and economic stability: evidence from Asia-Pacific economies. Humanities and Social Sciences Communications, 12(1). <https://doi.org/10.1057/s41599-025-05099-x>
- [65]. Setyoko, P. I., & Kurniasih, D. (2022). Impact of the Covid 19 Pandemic on Small and Medium Enterprises (SMEs) Performance: A Qualitative Study in Indonesia. **Journal of Industrial Engineering & Management Research**, 3(3).
- [66]. Tjandrasa, B. B., & Dewi, V. I. (2022). Determinants of Consumer Confidence Index to Predict the Economy in Indonesia. Australasian Accounting, **Business and Finance Journal**, 16(4). <https://doi.org/10.14453/aabfj.v15i4.02>
- [67]. Wibowo, J. M., & Hariadi, S. (2024). Indonesia Sustainable Tourism Resilience in the COVID-19 Pandemic Era: Case Study of Five Indonesian Super- priority Destinations. Millennial Asia, 15(2). <https://doi.org/10.1177/09763996221105143>
- [68]. Widiyanti, N., & Dewanti, D. S. (2017). Analisis Pengaruh Jumlah Obyek Wisata, PDRB, Jumlah Hotel, Jumlah Restoran dan Rumah Makan, Terhadap Pendapatan Asli Daerah Sektor Pariwisata di Daerah Istimewa Yogyakarta Tahun 2010-2015. Journal of Economics Research and Social Sciences, 1(2).
- [69]. Wijaya, A., Zainurossalamia, S., & Darma, D. C. (2020). Life-cycle hypothesis for consumption pattern: Example from Indonesia. **International Journal of Advanced Science and Technology**, 29(4), 4712-4720.
- [70]. Wooldridge, J. M. (2018). Introductory Econometrics: Modern Approach (7th edition). In Tolerance Analysis of Electronic Circuits Using MATHCAD.
- [71]. Yuliadi, I., Sari, N. P., Setiawati, S. A. P., & Ismail, S. H. (2024). The effect of exchange rate, inflation, interest rate and import on exports in ASEAN countries. **Jurnal Ekonomi & Studi Pembangunan**, 25(1). <https://doi.org/10.18196/jesp.v25i1.20921>
- [72]. Yuslin, H., Ekonomi, F., Islam, B., & Bone, I. (2022). Determinan Indeks Keyakinan Konsumen Terhadap Kondisi Perekonomian Di Indonesia. **Islamic Economic and Business Journal**, 4(1).