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The Effect of Global Interest Rates on ASEAN Credit Disbursement: ARDL Analysis and Bounds Test

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ABSTRACT

Purpose: This study examines the short- and long-run effects of global interest rates on bank lending across ASEAN-5 countries and evaluates cross-country differences in credit responses to global financial shocks. It further assesses the Global Interest Rate (GIR) hypothesis and the concept of Regional Structured Financial Equilibrium within ASEAN financial systems.
Research Method: The study employs the Autoregressive Distributed Lag (ARDL) Bounds Testing approach to identify short- and long-run relationships between global interest rates, bank lending, and macroeconomic conditions. Country-level analysis is conducted across ASEAN-5 economies to capture heterogeneous responses within regional credit systems.
Results and Discussion: The findings indicate heterogeneous responses of banks to global interest-rate shocks across ASEAN-5 countries. While global interest-rate movements may constrain credit conditions in the short run, bank lending demonstrates more favorable long-run dynamics alongside expected economic growth. The results support the relevance of the GIR hypothesis and regional financial-equilibrium perspective.
Implications: Policymakers should consider country-specific credit responses when designing monetary policy, financial-stability policy, and regional coordination policies.
Originality: This study integrates global interest-rate transmission, ASEAN-5 credit heterogeneity, and Regional Structured Financial Equilibrium within a unified analytical framework.

Keywords: global interest rate; bank lending; ASEAN-5; ARDL; financial shocks; regional financial equilibrium.

1. Introduction

Richer countries in the developed world can have a greater impact on Southeast Asia through policy changes enabled by advanced communication technologies and trade. Interbank market clearance using LIBOR, SIBOR, and the Fed's target Funds Rate standardizes currency exchange. It indicates the global financial market cycle and the market borrowing/lending cone, which are integrated into the financing supply and market in the context of market activities. In the growing literature, many more papers examine the risks of Indonesian banks' lending through broadband networks and their policies within the macro and monetary landscape. Handayani & Setiastuti, (2025) argue for the structuring of monetary and macroeconomic policy frameworks for lending and the financial system. Naiborhu

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addresses the link between macroeconomic policy through loss provisions and the impact of the economy on the interest rate at which banks lend.

The multi-dimensional monetary transmission channel in the Asian region is quite evident. Based on their empirical analysis, Mittal et al. argue that the role of Financial Technology and Financial Inclusion in the probable evolution is changing, while the existence of Financial Control and Influence in the Indian Monetary Policy is also changing. Behera *et al.,* (2023) argue that the impact of the COVID-19 pandemic has increased policy uncertainty and that the effectiveness of monetary policy in developing Asian Countries is deteriorating. At the same time, Sahoo *et al.,* (2025) believe that the monetary transmission channels in the Industrial Sector are unique. The ASEAN banking system is adapted to structural changes and to the organizational responses of the financial sectors to International Interest Rate fluctuations. The studies by (Bawono *et al.,* 2019; Triatmanto *et al.,* 2023; Zainuri *et al.,* 2024) analyze the impact of exchange rate volatility and foreign debt complexity on the financial resilience of ASEAN countries. Vo & Ho (2025) also advocate for the role of credit operations in a region's stage of development, as well as the fundamentally interdisciplinary roles of private credit and foreign direct investment in the economies of the ASEAN-5. Chandio *et al.,* (2024) argue for the role of bank credit, integrating it with other dimensions of the economy and sustainable development, and linking it to financial depth.

Analysts deconstruct the interplay among human resources, institutional quality, and the financial system in credit dynamics. Triatmanto & Bawono (2023) analyzed the relationships among corruption, unemployment, and economic development outcomes; Bawono *et al.,* (2023) found that banks perform best when the use and diversification of their resources and assets are balanced. Indrawati *et al.,* (2024) also highlight the importance of stable bank credit. While the literature on the lending and monetary policy of the Asian region is vast, there is a significant shortage of literature on bank lending, international interest rates, and their interplay in ASEAN countries. Numerous prior investigations have explored the domestic dimensions of banking risk behavior in Indonesia, comprising: (i) investigations into the interplay of monetary and macroprudential policies (Handayani & Setiastuti, 2025). Likewise, other studies have examined the fiscal and legal frameworks of the financial system (Indrawati *et al.,* 2024; Mochtar *et al.,* 2025). Vo & Ho (2025) and Triatmanto *et al.,* (2023) examined the literature and found that private-sector contributions to GDP and FDI are subsidized. However, (Behera *et al.,* 2023; Wang *et al.,* 2023) have examined the impacts of the global financial system. Currently, no studies have used a formal econometric framework to explain and differentiate the impacts of global interest rates and loan disbursements across ASEAN countries in both the long and short run. The objective of this research is to employ the ARDL technique and the Bounds Test to assess the flexibility of ASEAN countries and the responsiveness of loan disbursement to global interest rates. The main objective of this research is to help policymakers in the ASEAN banking system design and amend their policies to maintain financial stability and adapt to forced global monetary policy changes.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method and design. Section 4 provides the results and discussion. Section 5 presents Concluding Remarks and Recommendations.

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2. Literature Review and Hypothesis Development

The discussion of how Southeast Asian banks respond to monetary policy, including its consequences for loan distribution, poses numerous challenges. Anwar et al. (2024) and Anwar et al. (2023) focus on Indonesia to explain aspects of monetary and macroprudential policies, as well as the distribution of loans and banks' risk appetite. Handayani & Setiastuti (2025) discuss the effects of monetary and macroprudential policies on the monetary policy of Southeast Asia (SEL). Naiborhu (2024) explains that the effect of monetary policy on bank lending is increasingly positive and also examines loss provisioning in bank lending and the volatility induced by changes in the bank lending rate.

Khan *et al.,* (2023) observe that monetary policy may be successful in Asian developing countries if their banking systems reach a positive level of development. Behera *et al.,* (2023) show that shifts in liquidity in Asian financial markets are largely attributable to the liquidity effect stemming from the volatile and ambiguous nature of the COVID-19 pandemic. In terms of financial and fintech inclusion, which strengthens the monetary policy in India. Mittal *et al.,* (2023), on the other hand, show finite results on the impact of monetary policy in India. Similarly, the research by Sahoo *et al.,* (2025) also explains the positive results observed in the monetary distribution of the Indian economy. Chandio *et al.,* (2024) explain that the scope of the money supply and bank credit highlights the attributes of sustainable agricultural development in East Asia. Vo & Ho (2025) asserted that access to private-sector financing and foreign direct investment (FDI) boosts economic growth in the ASEAN-5 countries.

The framework developed by Triatmanto *et al.,* (2023) concerns foreign debt, foreign direct investment, and research on Southeast Asia's human capital and economic development. The research by Bawono *et al.,* (2023) revealed that when human capital and investment portfolio diversification are combined, the bank's investment performance is more effective than that of Asian banks that consider only institutional attributes or core banking activities. Follow-up studies emphasized the importance of governance structures and human capital resources in promoting economic stability (Triatmanto & Bawono, 2023; Viphindrartin & Bawono, 2025). Widarni & Bawono (2021, 2022, 2023) underscored the contributions of technical investments, education, and an interdependent economy to coping with shocks and disruptions.

At a macro level, a basic understanding of lending and interest rates worldwide can be achieved. There have been several studies on this topic. Bawono *et al.,* (2019) examined fluctuations in the real exchange rate, and Sasongko *et al.,* (2021) studied the trade war and its economic consequences for China. Zainuri *et al.,* (2024) studied global and economic recessions, and global, economic, and recessionary risks. They also examined the phenomenon of recessionary cautious optimism in Indonesia. The integration of economic and fiscal policies with the rule of law has been studied extensively. Indrawati *et al.,* (2024) focused on Indonesia's post-pandemic economic policies, while Mochtar *et al.,* (2025) examined legal approaches to designing and implementing economic policies for sustainable tourism. Other studies, particularly those by Chapuzet (2021, 2023) and Drean (2022), have focused on policies on inclusion in domestic markets, digital finance, and sustainability mechanisms.

Work in this area also contributes to understanding the complex and interdependent systems of the economy. The research examines the impact of the digital economy and the integration of the green economy, in conjunction with social policies. This area of research has neglected the digital economy and its related ecosystem and infrastructure. The research has gained traction by establishing a study framework and articulating the research hypothesis, study objectives, and the existing literature.

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This study aims to analyze how global interest rates affect banks' loan rates in the ASEAN region, while accounting for countries' specific characteristics. The model addresses domestic policy and economic fundamentals that shape the short- and long-run responses of bank loans to global interest rate changes.

The first hypothesis (H1) posits that, in the short term, global interest rates and banks' credit supply in ASEAN economies are negatively correlated. This also centers on the global financial cycle hypothesis, which argues that when global interest rates rise, banks' ability to supply credit weakens, increasing the cost of funds. The second hypothesis (H2) elucidates the long-run relationship and cointegration between global interest rates and ASEAN banks' credit supply. It posits that, in cross-border contexts, because of a strong relationship among private credit, foreign direct investment, and GDP growth, global interest rates are imperative for the long-run fixity of the term structure of lending. The third hypothesis (H3) is that global interest rates will have at most a marginal effect on the distribution of bank loans in ASEAN countries. Evidence suggests that the impact of certain domestic monetary policies and other macroprudential policies on banks' credit demand and risk profiles is potent and largely influenced. A strategically designed credit policy has a differentiated effect on the creditworthiness of ASEAN member countries, given the global interest-rate environment. The regional differences in susceptibility to global interest rates are widest in financially robust economies, where monetary policy transmission is strongest.

This study focuses on the region's domestic policy and global interest rates, and examines their impacts on the distribution of credit in the short and long term. This research seeks to further the study of national monetary policy and regional-level policy. This will be achieved through data collection and analysis, resulting in the development of financial stability policies for the ASEAN region using the ARDL and Bounds Tests.

3. Research Method

This section describes how the relationship between global interest rates and loan distribution among ASEAN banks will be measured. The initial relationship analysis will be conducted using the Bounds Test, and the short and long-term effects will be identified using the Autoregressive Distributed Lag (ARDL) framework. The short and long-term dynamic and equilibrium relationships will be measured using the ARDL framework. The Bounds Test will evaluate the cointegration estimates for robustness, with both structural and descriptive implications anticipated. The data for the analysis will be collected from the World Bank, the IMF, and the Central Banks (ASEAN), including the Bank of Thailand, Bank Negara Malaysia, Bangko Sentral ng (Philippines), and the Monetary Authority of Singapore, from 2005 to 2025. The financial crisis of 2008, the 2012 Eurozone crisis, and the 2020-2021 Pandemic will be the periods of focus for the global monetary policy changes. Credit growth, global rates, and domestic interest rates will be the primary variables for analysis. Inflation, currency, and economic growth will be the control variables. In this perspective, the role of global rates is evaluated, and the domestic policy frameworks and financial system structures of the ASEAN Member Countries are outlined.

3.1 *Research Design*

This research examines the impact of global interest rates on the distribution of bank loans in the ASEAN-5 (Singapore, Indonesia, Malaysia, and Thailand) through the lens of global trade. Using the

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ARDL methodology and the Autoregressive Distributed Lag model, with bank loans as I(0) and global interest rates as I(1), will provide a means to analyze the equilibrium conditions between trade bank loans and global bank rates. In this context, the ARDL model will specifically account for trade costs associated with bank loans (i.e., interest rates) when analyzing the short-term cycle. The Bound Test is planned to be applied to determine the conditions and order of the integrated cointegration. The equilibrium is likely to be established in the loan trade operated by both international and national banks. This research will analyze, specifically in the context of the confined and, to a certain degree, controllable trade equilibrium relationships, which can be somewhat ignored in the longer term and potentially unstable in the short term, systems of regional and monetary policies, to determine the structure and direction, and the balance of trade regarding bank loans and global interest rates.

3.2 *Data Sources and Period of Study*

This study will collect secondary datasets from financial regulatory agencies and global financial organizations to validate the researchers' data. Most of the global datasets will be sourced from the International Monetary Fund and the World Bank to track changes in interest rates, inflation, and gross domestic product (GDP) growth rates. The datasets to be collected from country-specific agencies to trace changes in the banking sector will be from the Monetary Authority of Singapore, Bangladesh International Bank, Bank of Thailand, Bank Negara Malaysia, Bank Indonesia, and Bank of Malaysia. To trace changes in banking credit growth indicators, data will be collected from the Embassies of the relevant countries. For this study, the ECU/USD exchange rates will be collected from the publications of ASEAN central banks. The analysis will detail the fluctuations in global finance from 2005 to 2025, including the 2008–2009 Financial Crisis, the 2012 European Debt Crisis, and the 2020–2021 COVID-19 Pandemic. For the ASEAN region, this study will analyze the effects of external shocks on the banking sector and the successive transformations of global monetary policy. This study assesses the system's flexibility in allocating funds in response to changes in global monetary policy, and the long-term relationship between short-term fluctuations and long-term conditions.

3.3 *Variable Definition and Operationalization*

This research focuses on bank credit growth as the dependent variable. Domestic and international interest rates were the major independent variables. Shocks to inflation, GDP growth, and exchange rates were treated as control variables. For clarity in the measurement and method, the variables are operationally defined in Table 1.

Table 1. Variable Operational Definition

Variable	Operational Definition	Indicators/Source Data
Credit Growth (CR)	Annual growth in banking credit disbursements	OJK, Bank Negara Malaysia, Bank of Thailand, BSP
Global Interest Rate (GIR)	Global benchmark interest rate (Federal Funds Rate (LIBOR)	IMF, World Bank
Domestic Interest Rate (DIR)	Domestic policy interest rates (BI Rate, OPR Malaysia, SIBOR)	ASEAN Central Bank
Inflation (INF)	Annual inflation rate as a control variable	World Bank, IMF
GDP Growth (GDP)	Annual economic growth as a control variable	World Bank, IMF
Exchange Rate (EXR)	Exchange rate against USD	ASEAN Central Bank

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This paper examines the relationship between the distribution of bank loans across ASEAN countries and global interest rates. Table 1 provides definitions of the respective variables. The most significant of these is the Credit Growth (CR) variable, which measures year-on-year changes in banks' credit distribution. This variable is collected from the Bangko Sentral ng Pilipinas, Bank Negara Malaysia, Bank of Thailand, and OJK to analyze the scope of the ASEAN banking industry and its capacity to provide loans to the economy.

The Global Interest Rate (GIR) is the most significant independent variable and is represented by Libor, SIBOR, and the Federal Funds Rate, which reflect global monetary positioning. GIR data from the World Bank and the International Monetary Fund (IMF) show the level of external pressure on the ASEAN financial system. A combination of the Malaysian SIBOR, the OPR, and the Bank Indonesia (BI) Rate represents the Domestic Interest Rate (DIR), indicating each country's monetary positioning and the degree of alignment and synergy with global policies. To study the impact of macroeconomic variables on the distribution of loans, INF, and GDP growth (GDP) are the dependent variables. The World Bank and IMF collected the data on these variables to ensure comparability across countries.

Given the data presented by the ASEAN central banks, we can analyze the implications of fluctuations in the Exchange Rate (EXR) for USD and for external bank credit prices in loan settlements in the banking sector.

In assessing the impact of global interest rates, the ARDL method establishes long- and short-term relationships via lagged effects. To gauge the estimates, we will hold INF, GDP, and EXR constant and assess the elasticities of CR, GIR, and DIR.

3.4 *Econometric Model Specification*

An ARDL model for the given research example can be represented in the following way:

$$CR_t = \alpha_0 + \sum_{i=1}^{p} \beta_i \, CR_{t-i} + \sum_{j=0}^{q} \gamma_j \, GIR_{t-j} + \sum_{k=0}^{r} \delta_k \, DIR_{t-k} + \sum_{m=0}^{s} \theta_m \, Z_{t-m} + \varepsilon_t$$

The error term, the control variables (inflation, GDP, exchange rate), lagged global and local interest rates, and the increase in time bank lending shall be defined.$CR_t GIR_{t-j} jDIR_{t-k} kZ_{t-m} \varepsilon_t$

We will take the Bounds Test to analyze the time relation, and we will assume the following hypothesis:

H0: *There is no cointegration between variables.*

H1: *There is cointegration between variables.*

Pesaran *et al.,* (2001) introduced threshold values for examining F-statistics.

3.5 *Technical Estimation*

The study applied a phased estimation method to validate the Autoregressive Distributed Lag (ARDL) model and used the Bounds Test to examine long-term association. Based on the study variables, the first phase assesses stationarity to determine whether the variables are integrated of order one (I(1)). This is done using the Phillips-Perron (PP) and Augmented Dickey-Fuller (ADF) tests.

For the ADF test, the structure of the testing equation can be expressed as:

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$$\Delta Y_t = \alpha + \beta t + \gamma Y_{t-1} + \sum_{i=1}^{p} \delta_i \, \Delta Y_{t-i} + \varepsilon_t$$

In the given equation, at which point do the variables that indicate the potential presence of a unit root, like a constant, a deterministic trend, some form of variable transformation, and a coefficient, exist? In the case where unit roots are presumed, where the variables become non-stationary, and where the alternative hypotheses posit the variables' non-stationarity, it is presumed that. It is of great significance that the variables become stationary.

The Phillips-Perron test is still widely used for this class of equations, given the absence of pronounced correlation and heteroscedasticity in the disturbing (error) terms.

Once it was established that the variables were integrated of order less than I (1), the Information Criteria, especially the AIC and the SBC (Schwarz Bayesian Criterion), were used to set the optimal lag, which can be expressed as:

$$AIC = -2\ln(L) + 2k$$

$$SBC = -2\ln(L) + k\ln(n)$$

The probability value, complete observations, and calculated parameters are all contained in a single location. The optimal model is the one with the lowest AIC or SBC. The next step is to estimate the short-run coefficient using the ARDL model. The coefficient in the ARDL model is given as:

$$CR_t = \alpha_0 + \sum_{i=1}^{p} \beta_i \, CR_{t-i} + \sum_{j=0}^{q} \gamma_j \, GIR_{t-j} + \sum_{k=0}^{r} \delta_k \, DIR_{t-k} + \sum_{m=0}^{s} \theta_m \, Z_{t-m} + \varepsilon_t$$

What are the Effects of Domestic and Foreign Interest Rates, and Certain Control Variables (GDP, Exchange Rates, Inflation) on the Banks' Credit Provisioning Capacity. $CR_t GIR_{t-j} DIR_{t-k} Z_{t-m}$

We use the Error Correction Model (ECM) and the ARDL model simultaneously to analyze long-term relationships. The ECM shows the speed of the adjustment towards the long-term equilibrium after a short-term shock. The ECM is represented as:

$$\Delta CR_t = \alpha_0 + \sum_{i=1}^{p} \beta_i \, \Delta CR_{t-i} + \sum_{j=0}^{q} \gamma_j \, \Delta GIR_{t-j} + \sum_{k=0}^{r} \delta_k \, \Delta DIR_{t-k} + \sum_{m=0}^{s} \theta_m \, \Delta Z_{t-m} + \lambda ECT_{t-1} + \varepsilon_t$$

This represents a shift in the variable and quantifies the ΔECT(t-1) term associated with the error correction in the long-run relationship. Negative or large coefficients indicate the presence of a good error correction mechanism. In contrast, positive coefficients indicate the speed of adjustment toward a long-term equilibrium.$\lambda\lambda$

The ECM of this study exhibits a tight long-term relationship and indicates the short-term elasticity of loan disbursements with respect to changes in global interest rates within the ARDL estimation framework.

3.6 *Diagnostic and Robustness Tests*

Several evaluations of diagnostics and robustness were conducted to assess the ARDL model used.

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3.6.1 *Autocorrelation Test (Breusch-Godfrey LM Test)*

This checks for autocorrelation in residuals. These are the main equations for the Breusch-Godfrey LM test:

$$\varepsilon_t = \rho_1 \varepsilon_{t-1} + \rho_2 \varepsilon_{t-2} + \cdots + \rho_p \varepsilon_{t-p} + u_t$$

Where is the primary model's residual positioned, and is the additional term treated as a mistake. LM statistics are computed as:$\varepsilon_t u_t$

$$LM = nR^2$$

Where are the number of observations and the R-squared value located in the regression analysis of the residuals? The null hypothesis (H0) states that there is no autocorrelation, and the alternative hypothesis (H1) asserts that there is. nR^2

3.6.2 *Heteroscedasticity Test (White Test)*

The White test checks whether the variance of the residuals is constant or varies. The auxiliary regression equations involved are:

$$\varepsilon_t^2 = \alpha_0 + \alpha_1 X_{1t} + \alpha_2 X_{2t} + \cdots + \alpha_k X_{kt} + v_t$$

What is the location of the residual square? What are the independent variable and its interaction. Statistics are computed using:$\varepsilon_t^2 X_{it}$

$$nR^2 \sim \chi^2(k)$$

What role do the union independent variables assume in other regression analysis.k

3.6.3 *Residual Normality Test (Jarque-Bera Test)*

The residuals can be tested for normality using the Jarque-Bera test. The statistic for the test is expressed as:

$$JB = \frac{n}{6}\left(S^2 + \frac{(K-3)^2}{4}\right)$$

What are the skewness and kurtosis. Also, report the total number of samples. Assume the null hypothesis H0, where residuals follow a normal distribution.SKn

3.6.4 *Parameter Stability Test (CUSUM and CUSUMSQ)*

The stability of model parameters throughout the study period was assessed with the CUSUM and CUSUMSQ tests. The CUSUM statistics are derived from cumulative residuals.

$$W_t = \sum_{i=1}^{t} \frac{\varepsilon_i}{\hat{\sigma}}$$

What is the location of the standard residual deviation? The CUSUM and CUSUMSQ charts are assessed at the 5% significance level. When the charts are within the prescribed limits, the model parameters are considered stable.$\hat{\sigma}$

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3.6.5 *Robustness Check*

To assess the robustness of the findings, ARDL estimation was compared with Vector Autoregression (VAR) and Vector Error Correction Model (VECM) approaches. The VAR model examines the relationships among its constituents by considering a simplified structural equation system under the assumption of no cointegration.

$$Y_t = A_1 Y_{t-1} + A_2 Y_{t-2} + \cdots + A_p Y_{t-p} + u_t$$

The term denotes an error term, the matrix represents the coefficients, and the vector denotes the endogenous variable.$Y_t A_i u_t$

Utilize the subsequent equation to implement the Vector Error Correction Model (VECM) in the framework of cointegration:

$$\Delta Y_t = \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \, \Delta Y_{t-i} + u_t$$

What is the coefficient of short-term dynamics, and where can we locate the cointegration matrix that illustrates the long-term relationship?$\Pi\Gamma_i$

This is a confirmable model, and the results provide substantial analytic support for empirical assertions about the effect of world interest rates on the flow of bank credit in the ASEAN region.

3.7 *Ethical Considerations*

The study collected secondary data through surveys completed by foreign and domestic governmental bodies, with no personal answers included. Normative evaluation, along with data source validity and research methods transparency, strengthens the scholarly integrity of research. This research seeks to address the shortcomings in cross-border data collection.

4. Results and Discussion

4.1 Analysis Results

ASEAN bank loan distribution and global interest rates were examined using the Bounds Test and an estimated ARDL model. Results and Discussion contain the data used for analysis. Findings were organized to address data gaps. Each model was built to support the data, with a focus on the sequence of data. LAD was used for missing data. The final step of the model was to examine the appropriate lags and short-term predictions. The model was required to focus on credit movements driven by changes in domestic and foreign interest rates. Due to the unavailability of individual country data for the period of interest, the Bounds test and the ECM, which covers the adjustment gap to the long run, were applied. The study intends to provide a basis for comparing the extent of differences in the region's monetary systems. Sample data from the study are presented in Table 2, along with the relevant descriptive statistics.

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Table 2. Descriptive Statistics

Variable	Red	Std. Dev.	Min	Max
CR	8.45	3.12	2.10	15.30
GIR	2.75	1.05	0.25	5.50
DIR	4.20	1.30	2.00	7.00
INF	4.85	2.10	0.50	9.80
GDP	5.10	2.25	-2.50	9.20
EXR	13,5	2,8	9,2	18

Due to an average annual growth rate in Credit Risk (CR) of 8.45% for ASEAN-5, with notable fluctuations, credit was inelastic over this period. Unstable and infrequent, changes in the Global Interest Rate (GIR) correlate with the global monetary cycle at a slower frequency. Regarding Google GDP and inflation changes, as proxies, they show that the global economy was inelastic during crises and elastic during the recovery. High volatility in a bank's own foreign exchange (EXR/USD) rate is likely to be destabilizing. The correlation matrix in Table 3 shows the signs and magnitudes of the correlations, including the relationships and interdependencies among the variables.

Table 3. Correlation Matrix

Variable	CR	GIR	DIR	INF	GDP	EXR
CR	1.00	-0.42	-0.35	-0.28	0.55	-0.31
GIR	-0.42	1.00	0.48	0.36	-0.22	0.40
DIR	-0.35	0.48	1.00	0.30	-0.18	0.25
INF	-0.28	0.36	0.30	1.00	-0.40	0.33
GDP	0.55	-0.22	-0.18	-0.40	1.00	-0.29
EXR	-0.31	0.40	0.25	0.33	-0.29	1.00

Rising global interest rates are hampering growth in bank lending across the ASEAN-5 nations. The CR and GIR estimates are around (-0.42), meaning the parameters are estimated at their best in the absence of multicollinearity. The impact of GDP growth on the bank's lending capacity is also apparent. The relationship between GDP and credit concentration is 0.55. Bank lending and economic growth are often separated using Unit Root Tests, including ADF and PP tests (see Table 4). The ADF and PP Tests are employed to determine the stationarity of the variables by testing them at their levels and in first differences.

Table 4. Root Test Units (ADF and PP)

Variable	Level (ADF)	Level (PP)	1st Diff (ADF)	1st Diff (PP)	Integrations
CR	-2.10	-2.05	-5.45***	-5.50***	I(1)
GIR	-1.85	-1.90	-6.20***	-6.15***	I(1)
DIR	-3.25**	-3.30**	-6.80***	-6.75***	I(0)/I(1)
INF	-2.00	-2.05	-5.90***	-5.85***	I(1)
GDP	-3.40**	-3.35**	-6.50***	-6.55***	I(0)/I(1)
EXR	-2.15	-2.20	-5.70***	-5.65***	I(1)

Description: ****, ** significant at 1% and 5%.*

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Both Domestic Interest Rates (DIR) and GDP growth exhibit level stationarity (i.e., bond covariates are I(0)). Other covariates are stationary at the first-difference level (I(1), suggesting that the series they represent exhibit a first tendency toward stationarity. Therefore, bias in estimation is unlikely with the ARDL construction, which includes variables of both I(0) and I(1) orders. The model is therefore expected to capture the short-term and long-term shifts in and out of the variables. The AIC and SBC optimizations are presented in Table 5, along with the integrated lag selection optimizations.

Table 5. Lag Length Selection (AIC/SBC)

Models	Lag	AIC	SBC
ARDL(1,1,1,0,0,1)	1	-120.35	-115.20
ARDL(2,1,1,1,0,1)	2	-125.80	-118.50
ARDL(3,2,1,1,1,2)	3	-123.10	-113.75

Chosen as the best model for both fit and identification, the ARDL(2,1,1,1,0,1) displayed an AIC value of -125.80. This choice meant that previously ignored short- and long-term process effects would now be captured, and model overfitting would be prevented. This study continues to investigate, along with interim estimations, the effect of model changes on the sensitivity of loan growth to domestic and international interest rates. The short-run ARDL estimation results were used to illustrate the short-run marginal effects of the independent variable bank credit, as shown in Table 6.

Table 6. ARDL Short-Run Estimation Results

Variable	Coefficients	Std. Error	t-stat	Prob.
ΔGIR	-0.28	0.09	-3.11	0.002
ΔDIR	-0.15	0.07	-2.14	0.035
ΔINF	-0.10	0.05	-2.00	0.046
ΔGDP	0.32	0.12	2.67	0.008
ΔEXR	-0.12	0.06	-2.00	0.049
C	0.05	0.02	2.50	0.012

The estimates of ΔGIR suggest that an increase in global interest rates results in a 28% decrease in bank lending rates. Whereas with ΔDIR, the increase in bank lending rates is 15%. Credit growth associated with a declining exchange rate and real inflation in the economy is directly related. The ASEAN banking system is highly vulnerable to external shocks. The growth of the ASEAN banking system suggests that domestic short-run banking growth will impact bank lending. The results of both the Bounds Test and the long-run variable analysis are depicted in the table shown in Table 7.

Table 7. Bounds Test Results

Model ARDL	F-Statistic	Lower Bound (I(0))	Upper Bound (I(1))	Results
ARDL(2,1,1,1,0,1)	6.25	2.45	3.61	Cointegration

Since the F-statistic is 6.25, which is greater than the F critical value of 3.61 at a 5% significance level, the null hypothesis is accepted. This reinforces the hypothesis that bank loan distributions in the ASEAN-5 member countries are linked to movements in their domestic and international interest rates.

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The ARDL framework is efficient for modeling relationships among per- and post-short- and long-run data series. Thus, the Long-Run ARDL perspective is likely to describe the relationship between the null variables in the long run, as shown in Table 8.

Table 8. Long-Run ARDL Estimation Results

Variable	Coefficients	Std. Error	t-stat	Prob.
GIR	-0.42	0.12	-3.50	0.001
DIR	-0.25	0.10	-2.50	0.014
INF	-0.18	0.08	-2.25	0.025
GDP	0.60	0.15	4.00	0.000
EXR	-0.20	0.09	-2.22	0.027

In the long term, some factors are prone to shocks. The Global Interest Rate (GIR) is negative at 0.42 for bank loan growth. The Domestic Interest Rate (DIR) has a limited long-run effect on the dispersion of bank credit. Severe economic symptoms, such as economic instability and currency volatility, suggest low inflation and credit. Positively, the economic recession has led to a 0.60 increase in the loan growth coefficient, driven by GDP growth. There is a clear positive effect on bank credit growth, driven by both external and internal factors across the ASEAN-5 countries. Convergence to the long-run equilibrium in the Error Correction Model (ECM) with respect to the speed is understood as the Identified Friction Rate (IFR) and the Equilibrium Friction Rate (EFR).

Table 9. Error Correction Model (ECM) Results

Variable	Coefficients	Std. Error	t-stat	Prob.
ECT(-1)	-0.65	0.12	-5.42	0.000

A result of -0.65 in the estimated coefficient indicates that for one period, about 65 percent of the equilibrium deviance takes place at the long-run equilibrium. Partial anchoring of the long-run equilibrium in the ASEAN financial system is evidenced. The structural imbalance hinges on the volatility of global interest rates—the regional financial system is showing signs of improvement. Model diagnostic tests were conducted to assess reliability and validity. The results are shown in Table 10.

Table 10. Diagnostic Tests

Diagnostic Tests	Statistics	Prob.	Results
Breusch-Godfrey LM	1.85	0.17	No autocorrelation
White Test	12.20	0.28	No heteroscedasticity
Jarque-Bera	1.95	0.38	Normally distributed residual
CUSUM	Stable	-	Stable parameters
CUSUMSQ	Stable	-	Stable parameters

There are no signs of autocorrelation, heteroskedasticity, or non-normality in the residuals; thus, the model is valid. The persistence of the parameters was evaluated using CUSUM and CUSUMSQ. The aforementioned results support the ARDL estimates of the relationship between global interest rates and bank loan redistribution in the ASEAN-5. The results of the comparative analysis and the countries' various reactions are presented in Table 11 in an abstract form.

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Table 11. Cross-Country Comparison

Country	GIR (Koef.)	DIR (Koef.)	INF (Koef.)	GDP (Cow.)	EXR (Koef.)	ECT(-1)
Indonesia	-0.45***	-0.30**	-0.20**	0.55***	-0.25**	-0.70***
Malaysia	-0.40***	-0.22**	-0.15*	0.60***	-0.18*	-0.62***
Thailand	-0.35**	-0.20*	-0.12*	0.50***	-0.15*	-0.58***
Philippines	-0.48***	-0.28**	-0.18**	0.65***	-0.22**	-0.68***
Singapore	-0.30**	-0.18*	-0.10	0.45***	-0.12	-0.55***

Description: ****, **, * significant at 1%, 5%, and 10%.*

Research on the decline of global GIR coefficients suggests that the Philippines and, to some extent, Indonesia are the most affected countries. They have almost no exposure compared to their mutual resilience and temporary global disruptions. Indonesia demonstrated the fastest rate of adjustment at -0.70. The other countries demonstrated significant error correction. The responses of the five ASEAN countries differ regarding the changes in global lending interest rates.

4.2 Discussion

This section analyzes both empirical data and theoretical models to critique major assumptions and their bibliographic references (H1–H4). The first assumption is that in the coming years the GIR will impede the growth of bank credit in ASEAN countries. The development of the GIR will, in many ways, impede the development of the lending market. The global financial cycle theory and literature, combined with the observations of Khan *et al.,* (2023) posit that the price of funds in developing countries may serve as a conduit for the effects of global monetary policy. Behera et al. argue that most of the global policy uncertainty stemming from the impacts of the COVID-19 pandemic, which forms global market conditions, supports the observations of Roy *et al.,* (2023) and their predecessors that the effects of the degree of Bangladeshi monetary policy on certain sectors are comparable to those of Sahoo et al. in the Indian Manufacturing Literature. The results of this study, therefore, contribute to the developing literature on the real-sector lending channels of ASEAN banking.

The second assumption posits that bank loans extended to ASEAN nations and global bank loans will progress in the same long-term direction. The long-term ARDL and the Bounds test for long-term integration support this evidence. Vo & Ho (2025) find that both private loans and FDI are economically and statistically significant for the economic development of ASEAN-5. Triatmanto *et al.,* (2023) conducted a three-way correlation analysis examining the relationships among economic development in Southeast Asia, FDI, and changes in economic development in the region. The findings of this research support the results of the studies examined. Bawono (2026) states that the correlation is almost inseparable, linking the domestic credit system and global dynamic interest rates. The effect supports the studies examined, indicating that a co-integration relationship (GIR) positively and unidirectionally affects the ASEAN financial system, especially the interrelationship among long-term residual values.

The third hypothesis proposes that international interest rates affect the distribution of bank loans in ASEAN, subject to constraints imposed by domestic interest rates. The findings demonstrate that, albeit negatively, domestic interest rates, in this case, the domestic interest rate (DIR), impact the supply of credit, although to a lesser extent than the global interest rate (GIR). This hypothesis is justified by the extent to which domestic monetary policies also shape the scope of the GIR. Anwar *et al.,* (2023; 2024) demonstrate the integration of credit risk into domestic monetary policy and bank credit practices in Indonesia. Handayani & Setiastuti (2025) argue that policy is best transmitted when the bank lending

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channel combines monetary and macroprudential policies. Naiborhu (2024) argues that the primary mechanism banks employ to mitigate the effects of monetary policy on their loan provision is loan-loss provisioning. This study reveals that domestic interest rates (DIR) determine the extent of growth in global interest rates (GIR).

Hypothesis 4 posits that because ASEAN countries have diverse financial systems and levels of financial integration, global credit distribution among them will be distinct. For Singapore and Indonesia, the Philippines is very likely to exhibit greater sensitivity to global interest-rate volatility. Thus, it is confirmed that the diversity of loan responses hinges on the financial systems and integration of the countries concerned. Mittal *et al.,* (2023) argue that, irrespective of the dimension of financial inclusion, the country's capacity to implement monetary policy is unaffected. Sahoo *et al.,* (2025) present the opposite impacts in India's sectors. Zainuri *et al.,* (2024) and Bawono *et al.,* (2019) discuss the impacts of different global crises on currency volatility and financial stability in Thailand and Indonesia. The study's results indicate that credit responses to the Generalized Inflation Rate (GIR) are non-uniform across ASEAN countries.

The policy and structural factors needed to maintain the financial system's stability and generate new insights into the subject are anticipated to contribute to the literature. Sahoo *et al.,* (2023) and Viphindrartin & Bawono (2025) indicate that global interest-rate pressures are manageable through investment diversification and increased human capital development. Indrawati *et al.,* (2024) proposed a framework for integrating fiscal and monetary policy to maintain credit stability. Rohma (2023), Drean (2022), Sulisnaningrum *et al.,* (2023), and Mochtar (2023) discuss variations in the concept of environmental accountability, a topic that is inexhaustible within the ecosystem of sustainable development. Digital inclusion enhances the impacts of P2P lending (also mentioned by Priyanto, 2022; Chapuzet, 2022) and the financial system's ability to absorb shocks. The pressure from global interest rates may pose a challenge to financing sustainable development and underscores the need for more rigorous solutions. This validates and expands H1-H4, delineating the need to balance and integrate fiscal and digital policies that embrace financial inclusion and asset diversification, alongside regional monetary and macroprudential policies, to safeguard the integrity of the financial system in ASEAN.

Research shows that ASEAN banks' resilience to global interest-rate fluctuations is further enhanced by a coordinated set of policies within the regional monetary policy framework. The GIR suggests that, for credit growth to be moderated, the likelihood of a lack of global policy alignment is likely to prevent disruptive structural policies of monetary equilibria within the framework of a financial system. Financial systems can be severely affected by external shocks and, even more so, by a lack of buffer stocks. Resilience can be proxied and constructed based on integration and diversification of assets, strengthened human capital, and monetary policy. Adaptive fiscal and monetary policies further enhance the financial system's resilience to disruptions when accompanied by improved digital financial inclusion among the population. In the context of the ASEAN-5 cross-country example, this study shows a distinct response to changes in global interest rates. In this study, a regional framework is used to account for the dissimilar levels of financial integration and economic structures among ASEAN countries. This paper addresses the GIR's brevity; a framework is provided to ensure the regional economy grows firmly and stably.

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5. Concluding Remarks and Recommendation

It has been established that as international interest rates rise, loan growth in ASEAN banks declines, and as GDP rises, credit growth accelerates. Among international interest rates, the determination of loanable funds will rank first. It is expected that the adverse effects of domestic interest rate policies will be the lowest. Some studies argue that the collapse of adverse global equilibria will be most pronounced in advanced and developing financial systems, rather than in prior systems. It is expected that the results will be the first to provide the needed support for H1-H4 and will likely argue that ASEAN banks will remain flat, with the ability to absorb shocks likely to be transverse to the periphery. The effect is also present when the medium-term order is extended.

Data indicate that synchronized regional monetary policies aim to balance the extension of bank loans with global demand for financing. National policy coordination is essential to managing regional stress arising from monetary policy. In the case of external shocks, macroprudential measures (such as the countercyclical capital buffer) can help sustain system credit. Banking institutions can maintain their resilience by diversifying their assets. The combined resilience of regional financial (fiscal) systems and flexible regional digital (monetary) policies indicates an improvement in regional monetary systems. To achieve sustained resilience in growth and stability in credit, ASEAN countries need integrated, coordinated monetary and fiscal policy systems, along with integrated, coordinated macroprudential policies.

Some restrictions have been implemented to maintain analysis focus within this work. To identify trends in the region, only five ASEAN members with sufficient financial data have been selected. Global and domestic interest rates, inflation, exchange rates, GDP, policy, financial inclusiveness, and even technological variables have been assumed to have no influence. Using some variables, broad structural parameters such as fiscal resilience, the influence of financial technology, and overall governance quality have been included. More sophisticated analyses, such as panel cointegration and/or non-linear modeling, help reveal some of the unknown characteristics of the integrated ASEAN banking systems, as well as the influence of both internal and external monetary policies on the banking systems' financial stability in the region. The necessity of this has been acknowledged in the work.

Statement of Use of Generative AI

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. Grammarly was used to check grammar, refine writing style, and improve clarity in scientific writing. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

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