

“How corruption shapes the effects of economic globalization on bank stability: Evidence from Vietnamese commercial banks”

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HOW CORRUPTION SHAPES THE EFFECTS OF ECONOMIC GLOBALIZATION ON BANK STABILITY: EVIDENCE FROM VIETNAMESE COMMERCIAL BANKS

Abstract

Vietnam is an increasingly open economy with a heavily bank-based financial sector. This makes banking stability highly sensitive to external forces and governance quality. This study examines whether the effects of financial and trade globalization on banking stability vary with the strength of corruption control. Using 390 bank-year observations from 26 Vietnamese commercial banks over 2009–2023, we estimate a Panel Smooth Transition Regression (PSTR) model measuring financial and trade globalization at the country-year level. The Corruption Perceptions Index (CPI), where higher values indicate lower perceived corruption and stronger corruption control, serves as the transition variable. System GMM estimation serves as a robustness check.

Empirical results confirm that the effects of economic globalization on banking stability change from negative to positive as corruption control exceeds a threshold level. Financial globalization yields a negative baseline effect of –3.131 and transition coefficient of 5.458, with an estimated CPI transition location of 33.13. The corresponding estimates for trade globalization are –1.932, 3.757, and 33.27. These findings suggest that while economic globalization erodes banking stability under weak corruption control, its marginal effects turn significantly positive once the CPI moves beyond the thresholds. Corruption control itself has a positive effect on banking stability. The system GMM results confirm the same regime-dependent pattern.

These findings suggest that the benefits of globalization depend on institutional quality. Strengthening corruption control, governance, and bank risk management is therefore essential for ensuring that deeper global integration contributes to banking stability in Vietnam.

Keywords

globalization, corruption, banks, stability, Vietnam, PSTR

JEL Classification

G21, F36, D73

INTRODUCTION

Over the past two decades or so, Vietnam has become one of the most globally integrated economies in Asia. Trade openness has expanded rapidly, cross-border capital flows have increased, and the economy has become increasingly exposed to international trade and global financial conditions. At the same time, Vietnam remains a strongly bank-based economy in which commercial banks perform the dominant role in financial intermediation and credit allocation. Because alternative sources of long-term financing are still relatively underdeveloped, banking stability has implications that extend well beyond the financial sector. A stable banking system supports efficient capital allocation and sustained economic growth, whereas banking instability can quickly spill over to investment, employment, and macroeconomic performance (Vo, 2018; Laeven & Valencia, 2018; Henry Ntarmah et al., 2019; Wang et al., 2019).



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Economic globalization has created both opportunities and challenges for banking systems. Deeper globalization can bolster institutional resilience through expanded capital access and enhanced risk management yet simultaneously expose domestic networks to severe macro-financial shocks (Adam et al., 2024). In environments characterized by weak regulatory oversight, these macro-financial shocks may amplify credit expansion, encourage excessive risk-taking, and increase banking vulnerability (Yin, 2019; Razin et al., 2003). Thus, economic globalization is neither inherently stabilizing nor inherently destabilizing, as its ultimate impact on banking stability fundamentally depends on domestic institutional capacity.

This conditioning mechanism is heavily driven by the control of corruption in transition economies, as it influences the quality of governance, prudential supervision, and credit allocation. With this perspective, the control of corruption plays an important role in how global forces interact with the domestic financial sector. Weak corruption control may distort lending decisions, reduce regulatory effectiveness, and encourage preferential treatment of politically connected borrowers, thereby increasing systemic risk and weakening banking resilience (Asteriou et al., 2021; Park, 2012). Conversely, stronger institutional governance may enable banks to safely absorb the structural benefits of economic globalization while mitigating the transmission of external risks.

Vietnam's deep integration into the global economy has been accompanied by extensive institutional reforms and sustained efforts to strengthen corruption control. As these processes have evolved in parallel, it remains unclear whether deeper global integration consistently promotes banking stability or whether its effects vary with the level of corruption control. This unresolved issue is particularly important for a highly open, bank-based transition economy such as Vietnam.

1. LITERATURE REVIEW AND HYPOTHESES

The effect of economic globalization on banking stability remains a central yet unresolved debate in the literature. This is due to the fact that economic globalization shapes financial systems through distinct trade and financial transmission channels, both of which are fundamentally mediated by the domestic institutional environment, particularly the control of corruption. This section reviews theoretical and empirical literature regarding the relationship among trade globalization, financial globalization, corruption, and banking stability. The existing studies can be categorized into four groups: the impact of trade globalization on banking stability; the impact of financial globalization on banking stability; the direct effects of corruption on the banking system; and the role of corruption in moderating the relationship between globalization and banking stability. This organizational approach provides an integrated analysis to identify the unresolved issues that this study aims to address.

Trade globalization may influence banking stability through a number of interconnected channels related to competition, capital allocation,

and risk diversification. Trade globalization may foster intense product-market competition, reshape resource allocation along lines of comparative advantage, and incentivize domestic firms to penetrate international export markets (Ades & Di Tella, 1999; Melitz & Ottaviano, 2008). Trade globalization also allows firms to operate in multiple markets, helping them diversify their income rather than relying on just a few countries. Consequently, adverse economic conditions in one country may be partly offset by continued demand from other trading partners. Under this perspective, trade globalization may help stabilize firms' cash flows and repayment capacity, thus reducing credit risk for commercial banks (Heiland, 2016; Esposito, 2022). In other words, trade globalization can act as an indirect buffer against localized economic shocks and lower the likelihood that non-performing loans build up in the banking system.

Recent empirical work generally finds a positive link between trade globalization and banking stability. Using the System GMM method for a sample of developing countries, Hidayati et al. (2024) find that the interaction between trade openness and financial transparency improves banking sta-

bility, as reflected in higher net interest margins and Z-scores and lower non-performing loan ratios. In a related study, Rahman et al. (2021), using BRICS bank data for 2000–2017, report that trade openness reduces financial intermediation costs and enhances operational efficiency at banks, even during periods of global crisis. Similar results are found for emerging economies, where international trade openness gives banks greater opportunities to diversify their loan portfolios, reduce income volatility, and soften the effects of financial crises (Ashraf et al., 2017). Overall, the evidence from these studies commonly indicates that the stabilizing effects of trade globalization are stronger when they are supported by financial transparency, diversification, and information sharing.

Yet trade globalization can also introduce new risks for banking system stability. Deeper integration into international trade exposes banks to external shocks indirectly. These shocks may arise from fluctuations in global commodity prices or economic downturns in major trading partners. Such developments can reduce firms' revenues and cash flows, weakening their ability to service debt and increasing credit risk for banks. Adverse trade shocks may also trigger capital flow volatility and funding pressures, thereby heightening liquidity risks within the banking sector (Aghion et al., 2004). Such shocks may also create balance-of-payments pressures, affect exchange rates and interest rates, and spill over into the banking sector (Paasche, 2001). This theoretical view is supported by several empirical studies. Khan et al. (2021) indicate that trade globalization is associated with higher bank profitability in GCC countries, although its effects on credit dynamics are more complex. Federico et al. (2025) document that trade shocks after China's WTO accession increased non-performing loans in banks exposed to vulnerable industries. This rise in NPLs led to credit contraction and amplified adverse effects on the real economy. Similarly, Chau and Vinh (2023) find that globalization and policy uncertainty are associated with higher banking risk in Asia.

Parallel to trade dynamics, financial globalization is also viewed as a factor promoting banking stability through various mechanisms. Theoretically, financial globalization enables financial institu-

tions to spread risks more effectively and reduce income volatility through investment diversification (Obstfeld, 1992). Simultaneously, this process contributes to reducing capital costs, thereby enhancing the banking system's financial capacity (Stulz, 1999). Furthermore, financial integration requires improved market discipline and financial supervision, promoting governance quality and risk management in the banking industry (Károlyi, 2012).

Supporting this view, empirical studies suggest that foreign financial institution entry strengthens domestic bank financial stability, with this effect being more pronounced in countries with effective corporate governance and supervisory frameworks (Kusi et al., 2021). Giraldo et al. (2024) extend their study to 58 countries, using various financial openness and banking stability indicators and applying a double debiased machine learning (DDML) model, suggesting that financial openness reduces non-performing loans, decreases non-interest expenses, and increases banking system liquidity. Li and Moreira (2024) find that debt structure serves as a transmission channel from financial globalization to banking stability. Specifically, in the long run, financial globalization reduces short-term debt ratios while increasing long-term debt ratios, thereby enhancing banking stability.

An alternative view argues that financial globalization can undermine banking stability through risk amplification mechanisms. According to the "trilemma" hypothesis, the global financial cycle weakens monetary policy autonomy in countries with free capital flows. Consequently, domestic economic conditions become more susceptible to global macroeconomic fluctuations, making businesses and banks more vulnerable to sudden reversals in global financial conditions (Rey, 2015). Additionally, financial globalization poses risks of sudden stops in foreign capital flows, with these liquidity shocks rapidly spreading to bank balance sheets (Calvo, 1998; Mendoza, 2010).

Several empirical studies provide evidence supporting this view. Using data from 108 developing countries for 2012–2021 and applying the System GMM method, Nguyen (2024) finds a negative association between economic globalization and

financial stability. The study further shows that credit information sharing can mitigate these adverse effects by reducing information asymmetries and improving lending decisions. Gondwe et al. (2024) report that foreign bank entry increases financial instability among domestic banks in Sub-Saharan Africa. The authors argue that intensified competition may encourage domestic banks to pursue riskier lending strategies, particularly in countries with weak institutional frameworks and limited regulatory capacity. Evidence from Vietnam also suggests that foreign bank penetration may generate competitive pressure on domestic banks. This may reduce the profitability and stability of domestic banks and encourage them to adopt riskier lending strategies (Huynh, 2024). Besides, Li et al. (2024) find that capital account liberalization leads to higher levels of non-performing loans across 45 emerging and developing economies. The effect is particularly pronounced in countries with more liberalized bond, money, and credit markets, where easier access to funding intensifies competition and encourages greater risk-taking by banks.

Beyond external macroeconomic forces, domestic institutional integrity, specifically control of corruption, functions as a primary determinant of systemic financial stability. High levels of corruption can weaken financial stability, particularly in the banking sector, through several channels. Corruption distorts risk assessment and can redirect credit toward inefficient projects. This leads to weaker asset quality, rising non-performing loans, and lower capital adequacy, which are consistent with the “sand the wheels” hypothesis (Shleifer & Vishny, 1993; Mauro, 1995).

Recent evidence is consistent with these mechanisms. Using data on 7,235 banks in 160 countries from 2000 to 2016, Abuzayed et al. (2024) show that corruption increases credit availability but reduces profitability while increasing credit risk, default risk, and insolvency risk. Other studies also examine the link between corruption and non-performing loans. Internationally, Gjeçi and Marinč (2022) show that corruption exacerbates non-performing loan problems, particularly during financial crises or in small banks. Similar results are reported by Jiang and Wang (2024).

Another line of research suggests that in contexts of weak institutions and cumbersome procedures, corruption may act as ‘grease’, speeding up credit approvals and thereby enhancing financial intermediation efficiency in the short run (Leff, 1964). Chen et al. (2013) find that in countries with poor institutional quality, such as China, bribery helps firms gain better access to credit, suggesting that this ‘grease’ effect may improve capital allocation. Other studies suggest that corruption can enhance bank profitability in weak institutional environments (Mongid & Tahir, 2011; Bougatef, 2017).

In a globalized economy, institutional quality – and corruption in particular – shapes how trade and financial openness affect banking stability. Earlier theoretical and empirical studies suggest that globalization supports financial development only once legal frameworks reach certain thresholds; below those levels, openness may be weak or even harmful (Chinn & Ito, 2006; Kose et al., 2009). The effects of financial globalization may also vary according to the level of institutional development. Using data from both emerging and advanced economies, D. Bui and T. Bui (2019) show that financial openness affects bank risk-taking differently depending on the strength of domestic institutions. Foreign bank presence may also help improve governance and banking practices by introducing international standards and more advanced management experience. Claessens and Van Horen (2014) note, however, that these benefits are largely long-term and are most evident in countries with strong legal systems and effective banking supervision.

The existing literature lacks evidence regarding how institutional quality mediates the impact of economic globalization on banking stability. Documented empirical evidence suggests that trade and financial globalization can either strengthen banking stability or undermine it, depending on the institutional and economic context. By treating economic globalization and institutional quality as separate, additive determinants, existing studies fail to decode the conditional, regime-dependent nature of the impact of economic globalization on banking stability. Specifically, no previous study has quantified the corruption thresholds at which the effects of economic globalization on banking stability change in magni-

tude or direction. This gap is particularly evident in transition economies, where globalization and institutional reforms often evolve simultaneously.

The Vietnamese economy offers a useful setting for examining this issue. Over the twenty years or so, it has experienced a process of deeply integrating into the world economy through accession to the World Trade Organization (WTO) and joining a subsequent wave of new-generation free trade agreements (FTAs). Its trade openness remains among the highest in Asia while being one of the top countries receiving FDI funds. Yet, this intense trade and capital openness coexists with a financial system that remains heavily bank-based and structurally vulnerable to external shocks. Concurrently, in tandem with this process, the economy has implemented extensive domestic institutional reforms and fostered anti-corruption efforts. In this context of deep global integration and institutional transition, the effects of economic globalization on banking stability in Vietnam should be examined in light of the conditioning role of institutional quality. However, extant studies predominantly scrutinize the direct, isolated impacts of economic globalization on bank performance indicators.

Addressing these gaps, this study examines how financial and trade globalization affect banking stability in Vietnam and whether these effects vary across corruption regimes. Accordingly, the following hypotheses are proposed:

- H1: The effect of financial globalization on banking stability shifts from negative toward positive as corruption control increases through an estimated transition location.*
- H2: The effect of trade globalization on banking stability shifts from negative toward positive as corruption control increases through an estimated transition location.*

2. RESEARCH METHODS AND DATA

This section describes the research methodology and data used to examine whether the effects of economic globalization on banking stability

vary across corruption regimes. It first presents the Panel Smooth Transition Regression (PSTR) framework, followed by the specification tests used to determine the appropriate nonlinear model. The section then introduces the empirical model specifications, defines the variables, and describes the robustness analysis based on the system generalized method of moments (system GMM) estimator. Finally, it presents the data sources and descriptive statistics of the sample.

2.1. Panel smooth transition regression framework

The Panel Smooth Transition Regression (PSTR) model proposed by González et al. (2017) provides a flexible framework for modelling nonlinear relationships in panel data by allowing regression coefficients to change smoothly across regimes according to the value of a transition variable. The general specification of the PSTR model is given as follows:

$$y_{it} = \mu_i + \beta_0 x_{it} + \beta_1 x_{it} g(q_{it}; \gamma, c) + u_{it}, \quad (1)$$

where μ_i is the individual fixed effect; y_{it} is the dependent variable; x_{it} is the vector of independent variables; u_{it} is the error term. $g(q_{it}; \gamma, c)$ is a smooth logistic function of order m , $g(\cdot)$ takes the form:

$$g(q_{it}; \gamma, c) = \left(1 + \exp \left(-\gamma \prod_{j=1}^m (q_{it} - c_j) \right) \right)^{-1}, \quad (2)$$

where $\gamma > 0$ measures the slope of transition, $c = (c_1, c_2, \dots, c_m)$ is the threshold value. The regression coefficient changes from β_0 to $\beta_0 + \beta_1$ when the transition variable (q_{it}) exceeds the threshold value c_1 . The transition function value ranges from 0 to 1; when $\gamma \rightarrow \infty$, the transition function tends to become an indicator function.

2.2. Model specification tests

The homogeneity (linearity) test is first conducted to determine whether the relationship between the explanatory variables and banking stability is better represented by a nonlinear PSTR model than by a conventional linear panel model. Specifically, the null hypothesis of linearity, $H_0: \gamma = 0$, is tested using Equation (1). Nevertheless, as noted by Gonzalez et al. (2017), these statistical tests are

non-conventional due to the existence of unidentified nuisance parameters within the PSTR framework under the null condition. To address this identification issue, the function in Equation (1) is substituted using a first-order Taylor series approximation centered at $\gamma = 0$, leading to the derivation of the following auxiliary regression specification:

$$y_{it} = \mu_i + \beta_0^* x_{it} + \beta_1^* x_{it} q_{it} + \dots + \beta_m^* x_{it} q_{it}^m + \varepsilon_{it}^*, \quad (3)$$

The corresponding null hypothesis is reformulated as $H_0^*: \beta_1^* = \dots \beta_m^* = 0$. Following González et al. (2017), the null hypothesis is evaluated using four conventional test statistics: the Lagrange Multiplier chi-square test ($LM-\chi^2$), the Lagrange Multiplier F-test ($LM-F$), the heteroscedasticity- and autocorrelation-consistent chi-square test ($HAC-\chi^2$), and the heteroscedasticity- and autocorrelation-consistent F-test ($HAC-F$). If the null hypothesis of linearity is rejected, the next step is to determine the appropriate order of the transition function by selecting the parameter m . For each candidate value of m , we test the null hypothesis of linearity: $H_{03}^*: \beta_3^* = 0$, $H_{02}^*: \beta_2^* = 0 | \beta_3^* = 0$, $H_{01}^*: \beta_1^* = 0 | \beta_2^* = \beta_3^* = 0$. The optimal value of m is selected as the one that yields the strongest statistical rejection of the null hypothesis of linearity.

After establishing the presence of nonlinearity, the PSTR model is estimated to obtain the coefficients β_0 , β_1 , γ , and c . Following González et al. (2017), additional post-estimation diagnostic tests are then performed to determine whether a single transition function adequately captures the nonlinear relationship. Specifically, the null hypothesis that the PSTR specification contains only one transition function (i.e., two distinct regimes) is tested against the alternative of an additional transition function. If the null hypothesis is rejected, the number of transition functions (r) is increased sequentially until there is no longer statistical evidence supporting the inclusion of an additional transition function. The extended PSTR specification with two transition functions ($H_0^*: r=2$) is presented as follows:

$$y_{it} = \mu_i + \beta_0 x_{it} + \beta_1 x_{it} g_1(q_{it}^{(1)}; \gamma_1, c_1) + \beta_2 x_{it} g_2(q_{it}^{(2)}; \gamma_2, c_2) + \varepsilon_{it} \quad (4)$$

Under the null hypothesis $H_0^*: r = 1$, the second transition parameter is not identified, implying $H_0^*: \gamma_2 = 0$. As in the homogeneity test, this identification problem is addressed by replacing the second transition function with its first-order Taylor series expansion around $\gamma_2 = 0$, leading to the following auxiliary regression:

$$y_{it} = \mu_i + \beta_0^* x_{it} + \beta_1^* x_{it} g_1(q_{it}^{(1)}; \gamma_1, c_1) + \beta_{21}^* x_{it} q_{it}^{(2)} + \dots + \beta_{2m}^* x_{it} q_{it}^{(2m)} + \varepsilon_{it}, \quad (5)$$

Based on Equation (5), the corresponding null hypothesis is expressed as $H_0^*: \beta_{21}^* = \dots \beta_{2m}^* = 0$. The same four test statistics – $LM-\chi^2$, $LM-F$, $HAC-\chi^2$, and $HAC-F$ – are used to evaluate the null hypothesis. If the null hypothesis cannot be rejected, a single transition function is considered sufficient to characterize the nonlinear relationship. Otherwise, an additional transition function is introduced, and the testing procedure continues. To further assess the adequacy of the selected PSTR specification, parameter constancy tests are also conducted.

2.3. Empirical model specification

The described PSTR framework is subsequently applied to the empirical models investigating the relationship between economic globalization and banking stability. Two model specifications are considered. The first examines financial globalization, whereas the second replaces financial globalization with trade globalization while retaining the same transition variable and control variables. The empirical models are specified as follows:

$$Z-score_{i,t} = \mu_i + \delta_0 FG_t + \delta_1 FG_t g(CPI_t, \gamma, c) + \delta_2 Control_{i,t} + \varepsilon_{i,t}, \quad (6)$$

$$Z-score_{i,t} = \mu_i + \alpha_0 TG_t + \alpha_1 TG_t g(CPI_t, \gamma, c) + \alpha_2 Control_{i,t} + \varepsilon_{i,t}. \quad (7)$$

In Models (6) and (7), banking stability, the dependent variable, is measured by the natural logarithm of the Z-score, which is determined by the following formula:

$$Z-score_{i,t} = \frac{ROA_{i,t} + CAR_{i,t}}{\sigma(ROA)_{i,t}}, \quad (8)$$

Where ROA is return on assets and CAR is the equity-to-total-assets ratio. The standard deviation of ROA, $\sigma(ROA)_{i,t}$, is calculated using a three-year rolling window comprising year t and the two preceding years ($t - 1$ and $t - 2$). Thus, the Z-score does not rely on a full-sample standard deviation of ROA. The natural logarithm of the Z-score is used in the estimations.

FG and TG refer to financial globalization and trade globalization, respectively. Financial globalization is measured according to the formula of Lane and Milesi-Ferretti (2007), by the total sum of foreign assets (FA) and foreign liabilities (FL) divided by gross domestic product (GDP). The specific formula is as follows:

$$FG = \frac{FA + FL}{GDP}, \quad (9)$$

Trade globalization is measured by the ratio of total trade flows (exports plus imports) to GDP. This measure is commonly found in previous studies (e.g., Rahman et al., 2020; Ma & Yao, 2022).

Both financial globalization (FG) and trade globalization (TG) are measured at the country-year level for Vietnam. Thus, the coefficients on FG, TG, and their regime-varying components are identified from changes in Vietnam's globalization indicators over time, rather than from cross-bank variation. Bank fixed effects absorb time-invariant bank characteristics, while the bank-level control variables capture changes in banks' balance-sheet conditions. The model also controls for GDP growth, banking-market concentration, and CPI to account for observed macroeconomic, sectoral, and institutional conditions. Nevertheless, because FG, TG, and CPI vary only by year in this single-country setting, a full set of year fixed effects would be perfectly collinear with these variables. The specification therefore cannot completely remove all unobserved common time-varying shocks. For this reason, the estimated coefficients are interpreted as conditional associations within Vietnam.

The transition variable in Models (6) and (7) is the Corruption Perceptions Index (CPI), published annually by Transparency International (TI). The CPI takes values in a range from 0 to 100, where

higher scores signify greater institutional integrity and stronger corruption control. Within the PSTR framework, the CPI serves as the transition variable, which allows the impact of financial and trade integration on banking stability to shift dynamically across distinct regimes of corruption control.

To isolate the effects of economic globalization, Models (6) and (7) incorporate a comprehensive set of control variables capturing bank-specific dynamics, market structure, and macroeconomic conditions. Bank-specific dynamics are represented by four indicators: the loan-to-asset ratio, liquidity (liquid assets to total assets), non-interest income diversification, and the average return on earning assets. Market structure is measured by the asset share of the five largest commercial banks, reflecting the degree of banking market concentration. Macroeconomic conditions are captured by the national GDP growth rate.

2.4. Robustness analysis

To verify the robustness of the estimated threshold effects, the analysis is complemented by the system generalized method of moments (system GMM) estimator developed by Blundell and Bond (1998). After estimating the PSTR model, the sample is divided into two subsamples according to the estimated threshold of the transition variable. Separate panel regressions are then estimated for each subsample using Models (10) and (11). The system GMM estimator helps address potential endogeneity issues arising from the potential reverse causality between globalization and banking stability. Consistent results between the PSTR and system GMM estimations provide additional evidence on the robustness of the estimated threshold effects.

$$Z - score_{i,t} = \rho_0 + \rho_1 FG_t + \rho_2 CPI_t + \sum_{a=1}^A \rho_a Control_{i,t} + e_{i,t}, \quad (10)$$

$$Z - score_{i,t} = \vartheta_0 + \vartheta_1 TG_t + \vartheta_2 CPI_t + \sum_{b=1}^B \vartheta_b Control_{i,t} + e_{i,t}. \quad (11)$$

2.5. Data

The study uses panel data for 26 Vietnamese commercial banks covering the period 2009–2023. Banks were included in the sample if they operated throughout the study period, published audited financial statements for every year, and had complete data for all variables. Policy banks, foreign bank branches, banks with incomplete data, and banks that ceased operations due to mergers or acquisitions were excluded from the sample. Data for the surviving or acquiring banks were collected from their published consolidated financial statements. These criteria yielded a balanced panel of 390 bank-year observations (26 banks $\times$ 15 years), with no missing observations in the final estimation sample.

The year 2009 is selected as the starting year of the sample period to ensure data consistency and reliability. By this year, commercial banks in Vietnam had universally adopted the Vietnamese Accounting Standards for financial reporting. In addition, this specific timeframe captures the most intensive phase of Vietnam's outward globalization, a structural shift set in motion by its accession to the World Trade Organization in 2007.

Regarding the data sources, bank-specific variables are calculated from the audited annual financial statements of the sample banks. Data on financial globalization are obtained from the External Wealth of Nations database (Lane & Milesi-Ferretti, 2007), while data on trade globalization, banking market concentration, and GDP growth are obtained from the World Bank database. The Corruption Perceptions Index (CPI) is obtained from Transparency International.

Table 1 presents the descriptive statistics for the research dataset. The mean natural logarithm of the Z-score index is 2.893, indicating that Vietnamese commercial banks maintain relatively strong financial stability. The corruption perceptions index (CPI) in Vietnam ranges between 27 and 42, with an average of 33.5, suggesting that perceived corruption remains relatively high. The data also reflect Vietnam's substantial economic openness, with financial globalization (FG) and trade globalization (TG) averaging 1.178 and 1.496 relative to GDP, respectively. Moreover, the relatively low standard deviations across the control variables indicate the absence of extreme values in the dataset.

2.6. Empirical results

This section presents the empirical results. It first reports the PSTR specification tests, followed by the estimation results and robustness analysis based on the system GMM estimator.

As discussed in Section 3, the homogeneity (linearity) test is conducted prior to estimating the PSTR model to assess the presence of nonlinear effects of economic globalization on banking stability in Vietnam. With the threshold variable specified as the level of corruption control (CPI), the test results in Table 2 provide sufficient evidence to reject the null hypothesis (H_0). In other words, non-linear effects exist in Models (6) and (7). The values ($m = 1, 2, 3$) in this table refer to the auxiliary polynomial orders considered in the linearity tests.

Table 3 reports the sequential tests used to select the order (m) of the logistic transition function. Because the panel may be affected by heteroskedasticity and serial correlation, model selection is

Table 1. Descriptive statistics of the sample variables

Variable	Obs	Mean	Std.dev	Min	Max
Log(Z-score)	390	2.8931	0.4793	1.8207	4.5604
FG	390	1.1789	0.2344	0.8570	1.5199
TG	390	1.4960	0.2167	1.1397	1.8700
Average yield on earning assets	390	0.0900	0.0253	0.0183	0.1972
Liquid assets/total assets	390	0.1715	0.0856	0.0152	0.6070
Outstanding loans/total asset	390	0.5703	0.1251	0.1942	0.8186
Non-interest income/total income	390	0.2089	0.1968	−0.2660	2.0511
Market concentration	390	0.5476	0.0490	0.4833	0.6421
CPI	390	33.5333	4.5499	27	42
Economic growth rate	390	0.0598	0.0151	0.0260	0.0810

Table 2. Homogeneity (linearity) test results for PSTR models

m	LM- χ^2		LM-F		HAC- χ^2		HAC-F	
	Statistics	p-value	Statistics	p-value	Statistics	p-value	Statistics	p-value
The independent variable is FG (Model (6))								
1	35.56	0.0000	32.37	0.0000	11.88	0.0005	10.820	0.0011
2	35.78	0.0000	16.24	0.0000	12.99	0.0015	5.896	0.0030
3	35.96	0.0000	10.85	0.0000	13.17	0.0042	3.973	0.0083
The independent variable is TG (Model (7))								
1	35.92	0.0000	32.70	0.0000	15.55	0.0001	14.15	0.0001
2	49.24	0.0000	22.35	0.0000	15.62	0.0004	7.089	0.0009
3	50.43	0.0000	15.22	0.0000	16.07	0.0010	4.848	0.0025

Table 3. Selection of the optimal transition function order (m)

m	LM- χ^2		LM-F		HAC- χ^2		HAC-F	
	Statistics	p-value	Statistics	p-value	Statistics	p-value	Statistics	p-value
The independent variable is FG (Model (6))								
1	35.56	0.0000	32.37	0.0000	11.88	0.0005	10.82	0.0011
2	0.246	0.6194	0.2239	0.6364	0.745	0.3878	0.677	0.4112
3	0.198	0.6557	0.1799	0.6714	1.260	0.2617	1.140	0.2863
The independent variable is TG (Model (7))								
1	35.92	0.0000	32.70	0.0000	15.55	0.0000	14.15	0.0001
2	14.67	0.0001	13.32	0.0003	6.546	0.1051	5.942	0.1520
3	1.358	0.2439	1.229	0.2683	2.950	0.2858	2.670	0.3031

based primarily on the HAC statistics. These results support $m = 1$ for both Models (6) and (7), implying a monotonic logistic transition function with one location parameter.

After estimating a model with one transition function ($r = 1$), we test the null hypothesis of no remaining nonlinearity against the alternative. When the sample size is small, and there are concerns about serial correlation and heteroscedasticity, heteroscedasticity- and autocorrelation-consistent (HAC) tests are more reliable than standard Lagrange multiplier (LM) tests (Gonzalez et al., 2017). As shown in Table 4, the HAC p-values exceed conventional significance levels in both Models (6) and (7). The null hypothesis therefore cannot be rejected. Accordingly, the final specification contains one transition function and two extreme regimes connected by a smooth transition.

Table 4. Remaining nonlinearity test results

Statistics	Model (6)	Model (7)
$H_0: r = 1, H_1: r \geq 2$		
HAC- χ^2	14.08	16.53
	[0.1197]	[0.2044]
HAC-F	1.388	1.6290
	[0.1922]	[0.3633]

Note: p-values are shown in square brackets.

In addition, the stability tests reported in Table 5 show that the estimated parameters are stable over the sample period. This supports confidence in the model's reliability for both analytical and forecasting applications.

Table 5. Results of parameter constancy test

Statistics	Model (6)	Model (7)
HAC- χ^2	12.05	13.98
	[0.2106]	[0.1231]
HAC-F	1.1880	1.3780
	[0.3017]	[0.1965]

Note: p-values are shown in square brackets.

Table 6 reports the estimation results for the Panel Smooth Transition Regression (PSTR) model. Model (6) focuses on financial globalization (FG) while Model (7) captures trade globalization (TG), with both frameworks utilizing the CPI as the primary transition variable. Across both specifications, the slope parameter (γ) and the location parameter (c) are statistically significant. These results confirm the existence of a smooth nonlinear transition between regimes and suggest that the effect of globalization on banking stability shifts across distinct corruption regimes.

Table 6. Panel smooth transition regression (PSTR) estimation results

Variables	Model (6)	Model (7)
FG (δ_0)	-3.1310*** [0.4953]	
FG (δ_1)	5.4580*** [1.241]	
TG (α_0)		-1.9320*** [0.5111]
TG (α_1)		3.757*** [1.074]
Average yield on earning assets	2.1750 [1.398]	3.4150** [1.354]
Outstanding loans/ total assets	0.3480 [0.4246]	0.9807** [0.4138]
Liquid assets/total assets	1.0360*** [0.3992]	0.5467 [0.3816]
Non – interest income/ total income	-0.2009*** [0.0264]	-0.19340*** [0.03024]
Market concentration	0.8334** [0.3517]	1.0590*** [0.387]
Economic growth rate	-0.4289 [0.5396]	-1.4520*** [0.4802]
CPI	0.2229*** [0.04038]	0.1953*** [0.0315]
Slope parameter (γ)	0.1465*** [0.0151]	0.1346*** [0.0242]
Location parameter (c)	33.1300*** [0.4091]	33.2700*** [0.1475]

Note: Standard errors (se) are shown in square brackets. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

The estimated CPI transition locations are 33.13 for financial globalization and 33.27 for trade globalization. Since a higher CPI score reflects a lower perceived level of corruption, these estimation results describe a transition from an environment with weak corruption control to one with better corruption control. Based on the estimated results for Model (6), the effect of financial globalization is given by $(-3.1310 + 5.4580g(CPI; \gamma, c))$. It therefore approaches -3.131 in the lower CPI regime and 2.327 in the upper CPI regime. Similarly, based on the estimation results for Model (7), the effect of trade globalization on bank stability approaches -1.932 and 1.825 in the lower and upper CPI regimes, respectively. Thus, the effects of globalization change smoothly from negative to posi-

tive as corruption control improves. These findings support Hypotheses 1 and 2.

The estimated coefficients of the Corruption Perceptions Index (CPI) are positive and statistically significant in both models, indicating that stronger corruption control directly enhances banking stability. The estimated coefficients are 0.223 in the financial globalization model and 0.195 in the trade globalization model.

The estimated coefficients of the control variables are generally consistent across the two model specifications. The outstanding loans-to-total-assets ratio, the average yield on earning assets, the liquid-assets-to-total-assets ratio, and market concentration are positively associated with banking stability. By contrast, the non-interest-income-to-total-income ratio and economic growth are negatively and significantly associated with the Z-score.

As a regime-based consistency check, the dataset is divided into two subsamples representing weak corruption control (CPI scores of 33 or below) and stronger corruption control (CPI scores of 34 or above). The system GMM estimator is then used to examine whether the estimated relationships remain consistent across these corruption control regimes. Table 7 reports the system GMM estimation results for Models (10) and (11), estimated separately for the high- and low-corruption regimes. The results show that trade globalization and financial globalization are associated with a negative impact on banking stability when the corruption index is 33 points or lower. In contrast, when the corruption index is 34 points or higher, globalization is associated with stronger financial stability of Vietnamese banks. In addition, the control variables remain statistically significant and largely unchanged in sign compared to Models (6) and (7). These results are consistent with those estimated using the PSTR model, thus supporting the robustness of the main results. The robustness results provide further support for both H1 and H2. Specifically, the effects of financial and trade globalization on banking stability are negative when corruption control is weak but become positive when corruption control is stronger. These findings therefore reinforce the hypothesized regime-dependent effects.

Table 7. System GMM estimation results (robustness analysis)

Variables	Model (10)		Model (11)	
	Weak corruption control (CPI ≤ 33)	Stronger corruption control (CPI ≥ 34)	Weak corruption control (CPI ≤ 33)	Stronger corruption control (CPI ≥ 34)
FG	−0.4396 *	1.3553***		
	[0.2327]	[0.1688]		
TG			−0.6857**	0.1581**
			[0.2705]	[0.0791]
Average yield on earning assets	1.8974***	2.6078**	4.0093***	2.2444
	[0.6120]	[1.014]	[0.5676]	[1.3972]
Outstanding loans/total assets	0.9284***	0.0107	−0.2690	0.2061
	[0.3208]	[0.5716]	[0.3177]	[0.3716]
Liquid assets/total assets	0.7819***	1.8640***	2.4897 ***	1.9116***
	[0.2402]	[0.3046]	[0.3637]	[0.3909]
Non-interest income/total income	−0.3112***	−0.3150	−0.2084***	0.0266
	[0.0152]	[0.1930]	[0.0311]	[0.3254]
Market concentration	−0.1057	0.0644	0.0895	0.6216**
	[0.0650]	[0.2613]	[0.1972]	[0.3121]
Economic growth rate	−7.8845***	−3.5818***	0.5599	−0.9318***
	[1.0493]	[0.4565]	[3.9198]	[0.2308]
CPI	0.0564***	0.0436***	0.0513**	0.0170***
	[0.0056]	[0.0045]	[0.0198]	[0.0032]
Observations	182	156	182	156
Number of groups	26	26	26	26
Number of instruments	25	25	25	25
AR(2)	0.739	0.791	0.889	0.375
Hansen test (p-value)	0.374	0.676	0.644	0.559
Instruments collapsed	No	No	No	No
GMM lag range	2-3	2-4	2-3	2-4

Note: Standard errors (se) are shown in square brackets. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

3. DISCUSSION

The principal finding of this study is that economic globalization affects banking stability through a non-linear and conditional path. Our PSTR estimates show the existence of regime-varying effects of both financial and trade integration on banking stability. Their marginal effects shift dynamically across two distinct corruption control regimes. At lower CPI values, which indicate weaker corruption control, the effects of globalization approach their negative baseline coefficients. As CPI increases through the estimated transition locations of 33.13 and 33.27, these effects move toward positive upper regime values. These results suggest that economic globalization does not automatically improve banking stability but depends on institutional quality. Good institutional quality is necessary to allocate international capital and

trade opportunities efficiently. It is also vital to control the extra risks of economic integration.

This evidence extends previous studies that report mixed effects of globalization on banks. Proponents of globalization argue that openness increases competition, technology transfer, and risk management (Claessens & Van Horen, 2014). By contrast, critics show that globalization exposes banks to foreign shocks and encourages excessive risk-taking when regulations are weak (Yin, 2019; Asteriou et al., 2021). Rather than supporting either view unconditionally, our results reconcile these conflicting findings by demonstrating that institutional quality, proxied by corruption control, determines which effect dominates.

These estimated corruption thresholds provide important implications for transition economies like Vietnam. When corruption is high, political

connections tend to misallocate trade and foreign capital inflows. Funds often flow toward politically connected firms or low-productivity projects. This dynamic weakens credit quality and reduces market discipline. Under these adverse conditions, globalization amplifies existing financial weaknesses instead of fixing them. However, once corruption control crosses the estimated threshold, the situation reverses. Stronger governance allows banks to benefit from global integration. It improves resource allocation, enhances transparency, strengthens supervision, and drives the adoption of modern banking practices.

This economic intuition fits well with institutional theories. These theories argue that governance quality determines whether globalization generates efficiency gains or financial fragility (Claessens & Van Horen, 2014). It also complements studies emphasizing corruption as an important determinant of banking stability (Asteriou et al., 2021; Park, 2012) by showing that corruption not only affects banking stability directly but also moderates the impact of globalization.

The estimated control variables generally reflect the operating characteristics of Vietnamese commercial banks. An increase in the outstanding loans-to-total assets ratio helps to strengthen the stability of Vietnamese banks. This result is consistent with some previous studies (Pham et al., 2021; Phan et al., 2019). It suggests that Vietnamese banks have maintained a relatively effective credit risk management mechanism in the context of deep globalization, thereby ensuring credit quality when expanding the lending scale. This outcome partly reflects the effectiveness of credit management policies of the State Bank of Vietnam, which applies bank-specific credit growth limits. Banks with better credit quality are typically allowed higher credit growth, while those with higher bad debt face tighter constraints.

In contrast, non-interest income activities are associated with higher financial instability, as indicated by the negative relationship between the non-interest income-to-total income ratio and the Z-score. This may reflect the relatively

underdeveloped nature of non-credit business segments in Vietnam, where financial products remain limited, and banks face constraints in identifying effective investment channels. In addition, this result may also be linked to weaker risk management capacity in non-credit activities.

The estimated coefficient on the average yield on earning assets is positive, suggesting that higher income generated from earning assets is associated with greater banking stability. This index reflects the efficiency of bank assets in generating income. A higher value means that banks are better at managing their investment and lending portfolios, so they earn more profit and build up more equity capital. In Vietnam, banks commonly rely on retained profits to build capital buffers, especially when liquidity is tight and other funding sources are limited.

The asset liquidity ratio yields a positive coefficient. This means higher liquidity supports greater stability for Vietnamese banks. This reflects the reality in the banking business in Vietnam that funding is often short-term, and local liquidity stress occurs frequently. Therefore, holding liquidity buffers helps reduce default risks. High liquidity can lower profitability. However, in Vietnam, these stabilizing benefits usually outweigh the costs due to volatile market conditions and refinancing risks.

For market concentration, the positive coefficient links higher market share to stronger banking stability. This outcome matches recent restructuring trends in Vietnam. Since 2014, the State Bank of Vietnam has promoted mergers to combine weak, small banks into larger institutions. In a system previously crowded with small banks, this consolidation strengthens financial capacity and improves risk management frameworks.

The coefficient on economic growth is negative, suggesting that higher growth is linked to greater banking instability. During boom periods, credit demand rises quickly. This may encourage aggressive credit growth that exceeds banks' risk-management capacity, thereby giving rise to structural imbalances and putting banking stability at risk.

Overall, the findings suggest that globalization effectiveness depends not only on the degree of external integration but also on the quality of domestic institutions. For Vietnam and other transition economies, deeper financial and trade integration alone is unlikely to strengthen banking stability

unless accompanied by sustained improvements in corruption control, governance quality, and banking supervision. The results therefore imply that institutional reform should be regarded as an integral component of financial integration policies rather than as a separate policy objective.

CONCLUSION

This study investigates how economic globalization affects the financial stability of Vietnamese commercial banks under different levels of corruption during the period 2009–2023. Using a Panel Smooth Transition Regression (PSTR) model, the study shows that the relationship between globalization and banking stability is nonlinear and depends critically on institutional quality. In particular, in settings with weak governance and high corruption, the results suggest that globalization can amplify vulnerabilities in the banking sector. By contrast, when institutional quality improves, banks can benefit more from international integration. The regime-based System GMM estimates produce a similar pattern of signs and therefore provide a consistency check for the main findings.

Overall, the evidence suggests that deeper international integration on its own is not sufficient to ensure banking stability in developing economies such as Vietnam. The effectiveness of globalization depends strongly on institutional conditions, particularly the ability to control corruption and strengthen governance quality. Policies that enhance transparency, improve regulatory effectiveness, and strengthen anti-corruption efforts should be seen as essential components of financial stability policy in an increasingly globalized environment. Vietnamese banks also need to keep improving governance standards, liquidity management, and risk-control practices so that they can better adapt to a more open and competitive financial environment.

A key contribution of this study is the identification of corruption control threshold values that determine whether globalization exerts a stabilizing or destabilizing effect on the banking system. This finding extends the existing literature, which has largely focused on linear relationships between globalization and banking stability.

Despite these contributions, the study has limitations. The analysis focuses only on Vietnam and does not compare differences across countries with varying institutional and financial structures. Moreover, FG and TG are measured at the country–year level and take the same value for all banks within a given year. Consequently, the model cannot fully separate globalization from unobserved common time-varying factors. Future work could extend the analysis to a wider set of developing or transition economies and explore whether other dimensions of institutional quality also shape the relationship between globalization and banking stability. In addition, a multi-country bank-level dataset would provide both cross-country and temporal variation in FG and TG, thereby reducing reliance on the time variation of a single country and partially mitigating the identification limitations arising from combining country-level globalization measures with bank-level stability outcomes.

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REFERENCES

1. Abuzayed, B., Ammar, M. B., Molyneux, P., & Al-Fayoumi, N. (2024). Corruption, lending and bank performance. *International Review of Economics & Finance*, 89, 802-830. <https://doi.org/10.1016/j.iref.2023.07.080>
2. Adam, B. M., Sarpong-Kumankoma, E., & Fiador, V. (2024). Economic freedom, corruption and bank stability: evidence from sub-Saharan Africa. *Journal of Financial Crime*, 31(4), 781-794. <https://doi.org/10.1108/JFC-04-2023-0087>
3. Ades, A., & Di Tella, R. (1999). Rents, competition, and corruption. *American Economic Review*, 89(4), 982-993. <https://doi.org/10.1257/aer.89.4.982>
4. Aghion, P., Bacchetta, P., & Banerjee, A. (2004). Financial development and the instability of open economies. *Journal of Monetary Economics*, 51(6), 1077-1106. <https://doi.org/10.1016/j.jmoneco.2003.12.001>
5. Ashraf, B. N., Arshad, S., & Yan, L. (2017). Trade openness and bank risk-taking behavior: Evidence from emerging economies. *Journal of Risk and Financial Management*, 10(3), 15. <https://doi.org/10.3390/jrfm10030015>
6. Asteriou, D., Pilbeam, K., & Tomuleasa, I. (2021). The impact of corruption, economic freedom, regulation and transparency on bank profitability and bank stability: Evidence from the Eurozone area. *Journal of Economic Behavior & Organization*, 184, 150-177. <https://doi.org/10.1016/j.jebo.2020.08.023>
7. Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115-143. [https://doi.org/10.1016/S0304-4076\(98\)00009-8](https://doi.org/10.1016/S0304-4076(98)00009-8)
8. Bougatef, K. (2017). Determinants of bank profitability in Tunisia: does corruption matter? *Journal of Money Laundering Control*, 20(1), 70-78. <https://doi.org/10.1108/JMLC-10-2015-0044>
9. Bui, D. T., & Bui, T. M. H. (2019). How does institutional development shape bank risk-taking incentives in the context of financial openness? *Pacific-Basin Finance Journal*, 58, 101209. <https://doi.org/10.1016/j.pacfin.2019.101209>
10. Calvo, G. A. (1998). Capital flows and capital-market crises: the simple economics of sudden stops. *Journal of Applied Economics*, 1(1), 35-54. <https://doi.org/10.1080/15140326.1998.12040516>
11. Chau, N. T. M., & Vinh, V. X. (2023). Economic policy uncertainty, globalization and banking stability. *International Journal of Business & Society*, 24(3), 1231-1251. <https://doi.org/10.33736/ijbs.6420.2023>
12. Chen, Y., Liu, M., & Su, J. (2013). Greasing the wheels of bank lending: Evidence from private firms in China. *Journal of Banking & Finance*, 37(7), 2533-2545. <https://doi.org/10.1016/j.jbankfin.2013.02.002>
13. Chinn, M. D., & Ito, H. (2006). What matters for financial development? Capital controls, institutions, and interactions. *Journal of Development Economics*, 81(1), 163-192. <https://doi.org/10.1016/j.jdeveco.2005.05.010>
14. Claessens, S., & Van Horen, N. (2014). Foreign banks: Trends and impact. *Journal of Money, Credit and Banking*, 46(s1), 295-326. <https://doi.org/10.1111/jmcb.12092>
15. Esposito, F. (2022). Demand risk and diversification through international trade. *Journal of International Economics*, 135, 103562. <https://doi.org/10.1016/j.jinteco.2021.103562>
16. Federico, S., Hassan, F., & Rapoport, V. (2025). Trade shocks and credit reallocation. *American Economic Review*, 115(4), 1142-1169. <https://doi.org/10.1257/aer.20200704>
17. Giraldo, C., Giraldo, I., Gomez-Gonzalez, J. E., & Uribe, J. M.

- (2024). Financial integration and banking stability: A post-global crisis assessment. *Economic Modelling*, 139, 106835. <https://doi.org/10.1016/j.econmod.2024.106835>
18. Gjeçi, A., & Marinč, M. (2022). Corruption and non-performing loans. *Economic and Business Review*, 24(4), 240-259. <https://doi.org/10.15458/2335-4216.1312>
 19. Gondwe, S., Gwatidzo, T., & Mahonye, N. (2024). Cross-border banking and bank stability: evidence from Sub-Saharan Africa. *Journal of Banking Regulation*, 26(2), 1-18. <https://doi.org/10.1057/s41261-024-00254-x>
 20. González, A., Teräsvirta, T., van Dijk, D., & Yang, Y. (2017). *Panel smooth transition regression models* (CREATES Research Paper No. 2017-36). Department of Economics and Business Economics, Aarhus University. Retrieved from https://pure.au.dk/ws/files/117610872/rp17_36.pdf
 21. Heiland, I. (2016). *Global risk sharing through trade in goods and assets: Theory and evidence*. Retrieved from <https://hdl.handle.net/10419/145821>
 22. Henry Ntarmah, A., Kong, Y., & Kobina Gyan, M. (2019). Banking system stability and economic sustainability: A panel data analysis of the effect of banking system stability on sustainability of some selected developing countries. *Quantitative Finance and Economics*, 3(4), 709-738. <https://doi.org/10.3934/QFE.2019.4.709>
 23. Hidayati, S., Marwa, T., Andaiyani, S., & Abukosim. (2024). Reviewing the consequence of trade openness and financial openness on banking stability in developing countries. *Banks and Bank Systems*, 19(1), 112. [http://dx.doi.org/10.21511/bbs.19\(1\).2024.10](http://dx.doi.org/10.21511/bbs.19(1).2024.10)
 24. Huynh, N. (2024). Non-native players in the domestic league: Foreign penetration and domestic banking sector in an emerging market. *Pacific-Basin Finance Journal*, 84, 102287. <https://doi.org/10.1016/j.pacfin.2024.102287>
 25. Jiang, L., & Wang, C. (2024). Lending corruption and bank loan contracting: Cross-country evidence. *Journal of Contemporary Accounting & Economics*, 20(2), 100415. <https://doi.org/10.1016/j.jcae.2024.100415>
 26. Karolyi, G. A. (2012). Corporate governance, agency problems and international cross-listings: A defense of the bonding hypothesis. *Emerging Markets Review*, 13(4), 516-547. <https://doi.org/10.1016/j.ememar.2012.08.001>
 27. Khan, A., Hassan, M. K., Paltrinieri, A., & Bahoo, S. (2021). Trade, financial openness and dual banking economies: Evidence from GCC Region. *Journal of Multinational Financial Management*, 62, 100693. <https://doi.org/10.1016/j.mulfin.2021.100693>
 28. Kose, M. A., Prasad, E., Rogoff, K., & Wei, S. J. (2009). Financial globalization: A reappraisal. *IMF Staff Papers*, 56(1), 8-62. <https://doi.org/10.1057/imfsp.2008.36>
 29. Kusi, B. A., Agbloyor, E. K., Asongu, S., & Abor, J. Y. (2021). *Foreign bank assets and presence on banking stability in Africa: Does strong and weak corporate governance systems under different regulatory regimes matter?* (AGDI Working Paper No. WP/21/022). Retrieved from <https://hdl.handle.net/10419/244197>
 30. Laeven, L., & Valencia, F. (2018). *Systemic banking crises revisited* (IMF Working Paper No. 18/206). International Monetary Fund. <https://doi.org/10.5089/9781484376379.001>
 31. Lane, P. R., & Milesi-Ferretti, G. M. (2007). The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970–2004. *Journal of International Economics*, 73(2), 223-250. <https://doi.org/10.1016/j.jinteco.2007.02.003>
 32. Leff, N. H. (1964). Economic development through bureaucratic corruption. *American Behavioral Scientist*, 8(3), 8-14. <https://doi.org/10.1177/000276426400800303>
 33. Li, K., Chen, Z., & Andrikopoulos, A. (2024). Capital inflow liberalization and bank credit risk. *Journal of International Money and Finance*, 142, 103047. <https://doi.org/10.1016/j.jimonfin.2024.103047>
 34. Li, Z., & Moreira, F. (2024). Financial openness, liability composition of banks, and bank risk: International evidence. *Journal of International Financial Markets, Institutions and Money*, 97, 102066. <https://doi.org/10.1016/j.intfin.2024.102066>
 35. Ma, Y., & Yao, C. (2022). Openness, financial structure, and bank risk: International evidence. *International Review of Financial Analysis*, 81, 102065. <https://doi.org/10.1016/j.irfa.2022.102065>
 36. Mauro, P. (1995). Corruption and growth. *The Quarterly Journal of Economics*, 110(3), 681-712. <https://doi.org/10.2307/2946696>
 37. Melitz, M. J., & Ottaviano, G. I. (2008). Market size, trade, and productivity. *The Review of Economic Studies*, 75(1), 295-316. <https://doi.org/10.1111/j.1467-937X.2007.00463.x>
 38. Mendoza, E. G. (2010). Sudden stops, financial crises, and leverage. *American Economic Review*, 100(5), 1941-1966. <https://doi.org/10.1257/aer.100.5.1941>
 39. Mongid, A., & Tahir, I. M. (2011). Impact of corruption on banking profitability in ASEAN countries: An empirical analysis. *Banks and Bank Systems*, 6(1), 41-48. Retrieved from <http://eprints.perbanas.ac.id/id/eprint/2978>
 40. Nguyen, Q. K. (2024). Globalization, credit information sharing and financial stability in developing countries. *Economic Change and Restructuring*, 57(6), 254. <https://doi.org/10.1007/s10644-024-09839-y>
 41. Obstfeld, M. (1992). *Risk-taking, global diversification, and growth* (Working Paper No. 4093). National Bureau of Economic Research. <https://doi.org/10.3386/w4093>
 42. Paasche, B. (2001). Credit constraints and international financial crises. *Journal of Monetary Economics*, 48(3), 623-650. [https://doi.org/10.1016/S0304-3932\(01\)00087-3](https://doi.org/10.1016/S0304-3932(01)00087-3)

43. Park, J. (2012). Corruption, soundness of the banking sector, and economic growth: A cross-country study. *Journal of International Money and Finance*, 31(5), 907-929. <https://doi.org/10.1016/j.jimonfin.2011.07.007>
44. Pham, T. T., Dao, L. K. O., & Nguyen, V. C. (2021). The determinants of bank's stability: a system GMM panel analysis. *Cogent Business & Management*, 8(1), 1963390. <https://doi.org/10.1080/23311975.2021.1963390>
45. Phan, H. T., Anwar, S., Alexander, W. R. J., & Phan, H. T. M. (2019). Competition, efficiency and stability: An empirical study of East Asian commercial banks. *The North American Journal of Economics and Finance*, 50, 100990. <https://doi.org/10.1016/j.najef.2019.100990>
46. Rahman, M. M., Begum, M., Ashraf, B. N., & Masud, M. A. K. (2020). Does trade openness affect bank risk-taking behavior? Evidence from BRICS countries. *Economies*, 8(3), 75. <https://doi.org/10.3390/economies8030075>
47. Rahman, M. M., Rahman, M. M., Rahman, M., & Masud, M. A. K. (2021). The impact of trade openness on the cost of financial intermediation and bank performance: evidence from BRICS countries. *International Journal of Emerging Markets*, 18(10), 3550-3587. <https://doi.org/10.1108/IJOEM-04-2021-0498>
48. Razin, A., Sadka, E., & Coury, T. (2003). Trade openness, investment instability and terms-of-trade volatility. *Journal of International Economics*, 61(2), 285-306. [https://doi.org/10.1016/S0022-1996\(03\)00014-X](https://doi.org/10.1016/S0022-1996(03)00014-X)
49. Rey, H. (2015). *Dilemma not trilemma: the global financial cycle and monetary policy independence* (Working Paper No. 21162). National Bureau of Economic Research. <https://doi.org/10.3386/w21162>
50. Shleifer, A., & Vishny, R. W. (1993). Corruption. *The Quarterly Journal of Economics*, 108(3), 599-617. <https://doi.org/10.2307/2118402>
51. Stulz, R. M. (1999). Globalization, corporate finance, and the cost of capital. *Journal of Applied Corporate Finance*, 12(3), 8-25. <https://doi.org/10.1111/j.1745-6622.1999.tb00027.x>
52. Vo, X. V. (2018). Bank lending behavior in emerging markets. *Finance Research Letters*, 27, 129-134. <https://doi.org/10.1016/j.frl.2018.02.011>
53. Wang, S., Chen, L., & Xiong, X. (2019). Asset bubbles, banking stability and economic growth. *Economic Modelling*, 78, 108-117. <https://doi.org/10.1016/j.econmod.2018.08.014>
54. Yin, H. (2019). Bank globalization and financial stability: International evidence. *Research in International Business and Finance*, 49, 207-224. <https://doi.org/10.1016/j.ribaf.2019.03.009>