

**THE IMPACTS OF CENTRAL BANK'S TRANSPARENCY ON STOCK
MARKET VOLATILITY IN SOUTHEAST ASIA: A CROSS-COUNTRY
ANALYSIS**

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ABSTRACT

This study investigates the impact of central bank transparency on stock market volatility across eight Southeast Asian economies from 2004 to 2020. Employing a novel Central Bank Transparency Index (CNTI) and a panel-based random effects model estimated via maximum likelihood, we find robust evidence that enhanced transparency significantly reduces stock return volatility. The effect remains stable across specifications that control for market structure, monetary policy conditions, and cross-border capital flows. Country-level analysis reveals considerable heterogeneity, with transparency exhibiting the most pronounced volatility-dampening effects in emerging and financially open markets, such as Singapore, China, and the Philippines. In contrast, developed markets like Japan and South Korea exhibit limited marginal responsiveness, and India presents a notable anomaly where transparency appears to increase volatility, possibly reflecting issues of communication inconsistency or limited policy credibility. Notably, even during the 2007–2008 global financial crisis, transparency retains a net stabilizing influence, although its effectiveness diminishes under systemic stress. These findings underscore the conditional nature of transparency as a policy instrument—its impact is shaped not only by the content of disclosure but also by the institutional, structural, and behavioral context in which it is received. Our results carry substantial implications for the design of communication strategies in modern monetary policy frameworks.

Keywords: Central Bank's Transparency; Stock Market Volatility; Panel Data with
Random Effect

JEL CODE: E44, E52, G15, C23

I. Introduction

In recent decades, central banks worldwide have transitioned toward more independent and transparent frameworks for conducting monetary policy. This shift reflects a growing consensus that institutional independence enhances not only macroeconomic credibility but also financial market stability. Klomp and de Haan (2009) argue that central bank independence (CBI) contributes to both price stability and the overall robustness of a nation's financial system. As transparency increases alongside independence, financial markets—particularly those that rely heavily on expectations—gain from improved clarity and reduced uncertainty regarding future policy actions.

The foundational work by Cukierman and Meltzer (1986) highlights the importance of transparency in shaping the expectations of economic agents. However, most empirical studies to date have predominantly focused on developed economies, leaving the interaction between monetary institutions and private sector behavior in emerging markets comparatively underexplored. This gap is especially relevant in the context of increasingly globalized capital markets. As Blinder (1998), Van der Cruysen and Demertzis (2007), and Crowe and Meade (2008) argue, the broader the availability of credible policy information, the more effective monetary transmission becomes—especially in guiding private sector expectations and financial decision-making.

The relationship between central bank transparency and macroeconomic outcomes has been examined extensively, yet the findings are nuanced. For instance, Chortareas et al. (2002) show that transparency in inflation forecasting can reduce inflation without necessarily increasing output volatility. Demertzis and Hughes-Hallett (2007) similarly find that while openness tends to reduce inflation volatility, its impact on output volatility and mean levels of macro variables is less pronounced. Dincer and Eichengreen (2007) extend this line of inquiry, concluding that the effects of transparency on inflation and output volatility are generally weak, suggesting that its primary value may lie elsewhere—such as in its influence on financial markets.

In theoretical models, the impact of central bank transparency on financial markets remains a subject of debate. Some scholars (e.g., Cukierman, 2001; Geraats, 2006; Rhee & Turdaliyev, 2013) contend that opaque monetary frameworks provide flexibility that can sometimes be advantageous. Others, including Laskar (2010), present empirical evidence that supports the efficacy of transparency, particularly when it is directly measured against market expectations. Eijffinger et al. (2006) argue that greater transparency enhances a central bank's credibility, flexibility, and reputation—mechanisms that can lower short-term interest rates without elevating long-term rates, reduce inflation expectations, and ultimately stabilize financial markets. These dynamics suggest a direct link between monetary policy transparency and stock market behavior, primarily through the interest rate channel embedded in equity valuation models.

The mandate of a modern central bank encompasses both domestic economic objectives and broader financial market stability. For example, the "Central Bank Law" in China outlines key policy goals: promoting financial system stability, improving the functioning of banking operations, maintaining currency stability (both domestically and internationally), and supporting economic development. Notably, currency stability involves controlling inflation and exchange rate fluctuations, both of which are closely

linked to capital market volatility. While central banks primarily influence the economy through monetary instruments, such as interest rates and open market operations, these tools also simultaneously affect macroeconomic variables, including exchange rates and investment flows. The breadth of these interactions underscores the importance of central bank autonomy in safeguarding credibility and effectiveness.

Despite the formal appointment of central bank governors by national governments, the spirit of monetary policy independence lies in its insulation from political influence. A central bank that becomes subordinated to the fiscal objectives of ruling authorities risks losing its policy credibility and, in extreme cases, may enable inflationary financing that leads to economic instability. This underscores the importance of both instrument independence—the freedom to choose and implement policy tools—and goal independence—the authority to define long-term objectives.

Building on this theoretical and empirical foundation, this study pursues three primary research goals: 1) To measure and analyze the volatility of stock market returns across major emerging and developed Asian economies. 2) To empirically investigate the impact of central bank transparency on stock market volatility, focusing on its stabilizing role in financial markets. 3) To derive actionable policy implications that support the design of optimal transparency regimes for central banks in both emerging and developed markets.

The remainder of the paper is organized as follows. Section 2 introduces the data, variable definitions, and summary statistics. Section 3 outlines the empirical methodology, including the random effects framework and model specifications. Section 4 presents the main estimation results on the relationship between central bank transparency and stock market volatility. Section 5 explores additional analyses, including country-level heterogeneity and the effects during the global financial crisis. Section 6 concludes with a discussion of the key findings, policy implications, and avenues for future research.

II. Literature Review

2.1 The Impact of Central Bank Transparency

The growing emphasis on central bank transparency reflects its pivotal role in shaping the effectiveness of monetary policy and financial market stability. Across developed and emerging economies, the literature consistently finds that greater transparency reduces market volatility by aligning expectations and improving policy predictability. Early studies by Tomljanovich (2007) and O'Sullivan and Tomljanovich (2012) established foundational evidence linking transparency and reduced financial market fluctuations. Recent work in emerging markets reinforces this relationship, showing that transparent inflation-targeting regimes and clearly communicated policy actions mitigate volatility in stock returns and exchange rates (Dridi & Boughrara, 2023; Aftab & Mehmood, 2023; Weber, 2019).

Transparency also enhances the transmission of monetary policy via interest rates, particularly in economies with developing financial markets (Papadamou et al., 2015; Weber, 2024). At the macroeconomic level, it improves inflation expectation anchoring and reduces inflation volatility (van der Cruysen, 2008; Sethi et al., 2024), though convergence remains uneven across institutional clusters (Sethi, Sharma & Meher, 2024). Central bank transparency is theorized to reduce market volatility by anchoring

expectations and enhancing policy credibility (Morris & Shin, 2002; Woodford, 2005). Empirical studies confirm these effects in advanced economies (Blinder et al., 2008; Gürkaynak et al., 2005) and across broader cross-country samples (Dincer & Eichengreen, 2014), emphasizing the importance of communication quality and institutional trust (Ehrmann & Fratzscher, 2007). In emerging markets, transparency can serve as a substitute for underdeveloped information environments, helping to stabilize investor behavior (Montes & Akram, 2010). However, the absence of credibility or coherence may heighten uncertainty (Mishkin, 2007). This study extends the literature by quantifying the volatility effects of transparency across heterogeneous Asian markets and exploring its performance under both standard and crisis regimes.

Beyond short-term market effects, transparency contributes to long-term credibility and financial resilience. Empirical evidence suggests a link to lower systemic risk and volatility, particularly in OECD and Asian markets (Horváth & Vaško, 2016; Dokas et al., 2023). Legal and operational frameworks are crucial for institutionalizing transparency (Aslam et al., 2022), while recent studies demonstrate their role in reducing systemic tail risk and enhancing sentiment transmission (Lin et al., 2024; Nalugonvu, 2025).

Overall, transparency emerges as a multidimensional policy lever, stabilizing financial markets while enhancing central bank credibility and effectiveness.

The role of central bank transparency in influencing foreign exchange dynamics has been well documented, particularly in developed economies. Evans and Speight (2010) and Rosa (2011) find that monetary policy announcements carry a significant principal component that explains a substantial portion of exchange rate fluctuations. These findings suggest that foreign exchange markets react not only to policy rate decisions but also to the information content embedded in policy statements, which reflect underlying macroeconomic assessments. Further emphasizing the role of communication, Fratzscher (2006) shows that central bank dialogue and signaling—particularly among the G3 economies (the United States, Japan, and the Eurozone)—can effectively reduce exchange rate volatility and uncertainty. He argues that the consistent supply of credible policy signals enhances the informational efficiency of currency markets and reduces speculative behavior.

Interestingly, the stabilizing effect of transparency is not universal. Gnabo et al. (2009) demonstrate that in the case of Japan, verbal communication from the Bank of Japan can increase exchange rate volatility, especially when such statements attempt to clarify or reinforce ongoing operations. This suggests that ambiguity in central bank language, even when intentions are benign, can inadvertently introduce market noise.

In contrast, research focusing on emerging markets indicates a more consistent dampening effect. Égert (2007), Fišer and Horváth (2010), and Goyal and Arora (2012) provide evidence that verbal interventions in these markets tend to reduce exchange rate volatility. These findings highlight the potential for transparency to serve as a stabilizing tool in contexts where policy credibility is still evolving. Égert and Kočenda (2014) further emphasize the importance of central bank communication in shaping exchange rate expectations during periods of heightened uncertainty—such as the global financial crisis—especially in emerging European and Middle Eastern economies relative to the

euro.

Beyond financial markets, transparency is closely linked to central bank independence, particularly in mitigating politically motivated interventions. Numerous empirical studies suggest that higher levels of autonomy are associated with lower inflation rates and more stable economic outcomes. In the absence of robust legal and operational safeguards, elected governments may exert undue influence over monetary policy, particularly in the lead-up to elections. By pressuring central banks to adopt accommodative stances, governments can engineer short-term economic expansions, often at the cost of long-term inflation—a dynamic known as the political business cycle. To prevent such interference, the legal institutionalization of central bank independence is essential. Independent central banks can maintain a consistent focus on long-term price stability without being drawn into cyclical political pressures. The literature emphasizes that this independence must extend to both goal independence (the ability to set policy objectives) and instrument independence (the freedom to use policy tools).

A related concern is the risk of monetary financing—commonly referred to as “monetizing the budget deficit”—where central banks are compelled to finance excessive government spending, often during periods of fiscal distress. Historical instances of hyperinflation, frequently linked to such practices, underscore the dangers of eroding central bank independence. To avoid these outcomes, many advanced economies have implemented legal restrictions on central banks' ability to finance fiscal deficits. In countries such as the United States, Germany, and the United Kingdom, direct purchases of newly issued government debt by central banks are either heavily restricted or outright prohibited. These institutions are typically permitted to engage in secondary market operations solely for the implementation of monetary policy or liquidity management. For example, the Bank of Japan is legally barred from purchasing newly issued government bonds, limiting its operations to the secondary market and maturing securities. Such restrictions are foundational to the credibility of inflation-targeting frameworks in industrialized economies.

Fiscal and monetary policy function as the twin pillars of macroeconomic management. When a central bank loses its operational autonomy and becomes a de facto financing arm of fiscal authorities, the resulting erosion of credibility can destabilize financial markets and undermine investor confidence. Indeed, when central banks merely validate government budgetary priorities—rather than independently pursuing monetary stability—they cease to function as credible anchors of macroeconomic stability. Modern macroeconomic theory emphasizes the need for clarity and predictability in monetary policy. Transparency enhances the effectiveness of central banks by enabling economic agents to understand better and anticipate policy moves. Today, most central banks in advanced economies utilize press releases, policy reports, live-streamed announcements, and digital communication platforms to disseminate real-time policy information.

This public-facing transparency reduces uncertainty in financial markets, improves private-sector planning, and enhances the legitimacy of policy decisions. More broadly, it also protects central banks from undue political interference by fostering accountability and public trust. Ultimately, greater transparency reinforces institutional independence and strengthens the central bank's role as a credible and competent steward of monetary

policy.

2.2 The Impact of Stock Market Volatility

Stock market volatility has long been a critical concern for both policymakers and market participants. For policymakers, elevated volatility raises fears about potential spillover effects on real economic activity, including investment, consumption, and employment. Market participants, by contrast, are primarily concerned with how volatility impacts asset pricing, portfolio risk, and capital allocation. A consistent theme in the literature is that heightened stock market volatility tends to hinder real economic recovery, particularly in the aftermath of financial crises or periods of macroeconomic stress.

Central bank monetary policy is widely recognized as a primary determinant of stock market volatility. Policy decisions, particularly those related to short-term interest rates, directly impact the discount rate applied to expected future cash flows, thereby influencing asset prices. Higher interest rates typically reduce present values, leading to declines in stock prices, and vice versa. These shifts in valuations may then feed back into the dynamics of volatility.

A notable feature of this relationship is the leverage effect, where stock returns and volatility exhibit an asymmetric relationship: negative returns tend to be associated with higher subsequent fluctuations. This effect has been well documented in the literature, including the work of Gospodinov and Jamali (2012). The link between monetary policy and stock market volatility has been extensively examined in developed markets. For example, empirical studies by Lobo (2002), Bomfim (2003), Chen and Clements (2007), Farka (2009), Konrad (2009), and Vähämaa and Äijö (2011) consistently find that central bank policy decisions have a significant influence on volatility levels. These effects are often asymmetric, depending on the direction and magnitude of the policy shock. In the context of stock returns, studies such as Lobo (2000), Bernanke and Kuttner (2005), and Chuliá et al. (2010) have analyzed how stock markets respond to monetary policy shocks, documenting asymmetric reactions depending on whether the shock is perceived as expansionary or contractionary. Complementing this, Guo (2004), Andersen et al. (2007), and Basistha and Kurov (2008) have examined how the degree of volatility asymmetry varies over the business cycle, showing that monetary policy has a more pronounced effect during economic downturns.

Further work by Chen (2007), Kurov (2010), and Jansen and Tsai (2010) examines the sensitivity of asymmetric volatility across different market phases, including booms and busts. In particular, Bomfim (2003) documents that stock market volatility responds differently to positive versus adverse monetary shocks, reinforcing the asymmetric nature of these dynamics. However, despite this extensive body of research, relatively little attention has been paid to how monetary policy interacts with volatility across different market regimes—especially during periods of extreme optimism or distress. One exception is Konrad (2009), who finds that monetary policy responses to volatility are significantly stronger during market downturns in Germany, suggesting that central banks may react more aggressively when downside risks dominate.

Taken together, the existing literature provides robust evidence that stock market volatility is highly sensitive to monetary policy actions, with notable asymmetries that

vary across time, shock direction, and market regimes. Yet, the extent to which this relationship holds across emerging markets or in different transparency environments remains an essential and underexplored research question.

III. Data Sources and Empirical Model

3.1 Data Sources

This study utilizes data on the transparency and independence ratings of central banks worldwide, as provided by Dincer and Eichengreen (2014). Stock price indices for significant emerging and developed market countries are collected from the Taiwan Economic News Database (TEJ). Therefore, the study period covers annual data from 1998 to 2016. Figure 1 illustrates the time trend of transparency ratings for major Asian central banks from 1998 to 2016, indicating that the central banks of the Philippines, South Korea, and Japan exhibit higher transparency, whereas China and Singapore have lower openness. Furthermore, Figure 2 indicates that the central banks of Sweden and Hungary have higher transparency, while Russia's is lower.

3.2 Empirical Model

Building on the empirical framework developed by Papadamou, Sidiropoulos, and Spyromitros (2014), this study formulates the following model to examine the relationship between central bank transparency and stock market volatility.

$$(Volatility)_{j,t} = \alpha_0 + \alpha_1 CBTI_{j,t} + \sum_{k=1}^m \beta_k X_{j,t}^k + \mu_j + \varepsilon_{j,t} \quad (1)$$

where j represents the country and t represents the year, $(Volatility)_{j,t}$, stock market volatility is defined, primarily based on the criteria set by Esqueda et al. (2012) and calculated using a GARCH model to measure the daily stock market return rate of the sample countries in the current year. The transparency index, $TR_{j,t}$, is mainly based on the composite index constructed by Dincer and Eichengreen (2014) from 1998 to 2014. To control for country-specific macroeconomic and financial characteristics, this study incorporates $X_{j,t}^k$, a set of variables commonly used in the literature to capture key aspects of economic and market conditions. Drawing on the methodologies of Mun (2007), Umutlu et al. (2010), and Esqueda et al. (2012), the following indicators are included: stock market turnover, stock market capitalization scaled by GDP, foreign direct investment (FDI) as a percentage of GDP, the standard deviation of the effective exchange rate, interest rate volatility, and stock market return. These variables serve to control domestic financial development, international capital mobility, and exchange rate and monetary stability.

The baseline empirical model estimates the relationship between central bank transparency and stock market volatility, accounting for structural, macro-financial, and institutional heterogeneity across countries. The model is specified as:

$$\begin{aligned}
 (\text{Volatility})_{j,t} = & \alpha + \beta_1 \times \text{CBTI}_{j,t} + \sum_j \delta \times (\text{Country}_j \times \text{CBTI}_{j,t}) + \phi \times (\text{GFC}_t \times \text{CBTI}_{j,t}) \\
 & + \psi \sum_k X_{j,t}^k + \varepsilon_{i,t}
 \end{aligned}
 \tag{2}$$

where $(\text{Volatility})_{j,t}$ = Standard deviation of stock market index returns for country i at year t . $\text{CBTI}_{j,t}$ represents the Central Bank Transparency Index. $(\text{Country}_j \times \text{CBTI}_{j,t})$ stands for the interaction terms capturing country-specific effects of transparency (e.g., Japan \times CBT). $(\text{GFC}_t \times \text{CBTI}_{j,t})$ represents the interaction term to capture the effect of transparency during the global financial crisis (2007–2009). $X_{j,t}^k$ is the vector of control variables including: Stock market turnover (%), Stock trading volume as % of GDP, Stock market capitalization as % of GDP, S&P World Equity Index, Number of listed companies, Effective exchange rate index, Bank lending rate (%), Inflation rate, Broad money supply (% of GDP), Net portfolio inflows (% of GDP), and Net foreign direct investment. α is constant term and $\varepsilon_{i,t}$ is error term.

IV. EMPIRICAL RESULTS AND ANALYSIS

4.1 Descriptive Statistics and Cross-Country Comparisons

Table 1 reports the descriptive statistics for the full sample and individual Asian economies across key macro-financial variables. These include stock return volatility, interest rate and exchange rate fluctuations, market capitalization and turnover ratios, as well as foreign direct investment (FDI) relative to GDP. Collectively, these indicators capture the heterogeneity of financial development and macroeconomic conditions relevant to assessing the impact of central bank transparency on market stability. Across the full sample, the standard deviation of stock returns averages 1.37%, with substantial cross-country variation. Interest rate volatility also varies widely, reflecting differences in monetary policy frameworks and the rigidity of the financial system. Market capitalization-to-GDP and turnover ratios show pronounced dispersion, ranging from small, thinly traded markets to large, highly liquid financial centers. Exchange rate volatility remains moderate on average, while FDI inflows exhibit significant variation, with some economies attracting large shares of foreign capital relative to GDP.

Clear patterns emerge across countries. East Asian economies with higher central bank transparency—particularly Singapore and Hong Kong—exhibit markedly lower stock return volatility, more stable exchange rate dynamics, and stronger market liquidity. These economies also record some of the highest market capitalization and turnover ratios in the region, reflecting both openness and the credibility of their monetary institutions. Japan stands out for its exceptionally low return volatility and financial market maturity, although it attracts relatively low levels of FDI. In contrast, emerging markets such as India, the Philippines, and Thailand display higher volatility in both stock returns and

interest rates, consistent with transitional financial systems characterized by evolving regulatory frameworks and less predictable monetary environments. These economies also show greater dispersion in exchange rate movements and FDI inflows, underscoring their exposure to external shocks.

Overall, the descriptive evidence suggests a strong alignment between financial stability and central bank transparency in the region. Economies with more transparent monetary authorities tend to experience lower asset price volatility and more stable macroeconomic and economic conditions, offering preliminary support for the hypothesis that transparency serves as a stabilizing mechanism in both advanced and emerging Asian markets.

4.2 Stock Market Volatility Trends and Transparency Effects

Figure 3 illustrates the time trend of the standard deviation of returns for the Taiwan Stock Exchange Weighted Index from 1990 to 2016. While fluctuations were evident, with pronounced peaks in 2000 and 2008, the overall trend reveals a gradual decline in market volatility. Similarly, the Nikkei 225 in Japan reached its lowest volatility level in 2005 before spiking in 2008 due to the global financial crisis. In the United States, the Dow Jones Industrial Average exhibited increasing volatility from 1995, peaking in 2002, and then declining until 2006. It surged during the 2008 crisis, followed by stabilization.

Figure 4 offers compelling evidence of cross-country heterogeneity in the relationship between central bank transparency and stock market volatility across nine major Asian economies. The downward-sloping trend lines in countries such as South Korea, Singapore, Thailand, and the Philippines reveal a strong inverse relationship between transparency and volatility. This suggests that in these markets, enhanced central bank communication and disclosure significantly reduce informational asymmetries and policy uncertainty. These economies, characterized by rapidly developing financial systems, have made substantial strides in aligning their monetary frameworks with international standards, which appears to amplify the benefits of transparency. The clear response of volatility to improvements in transparency in these markets also highlights the growing importance of forward guidance and policy credibility as practical stabilizing tools.

In contrast, Japan and Hong Kong, despite being highly developed financial markets, exhibit flatter slopes, indicating that the marginal impact of transparency on volatility is limited. This finding aligns with the view that in deep and liquid markets with mature institutional frameworks, the informational content of policy signals is already efficiently reflected in prices. Investors in these markets may rely more on structural indicators and macroeconomic fundamentals than on central bank communication alone, thus diluting the marginal utility of transparency reforms.

Conversely, China and India show either no clear relationship or a weak positive association between central bank transparency and stock return volatility. This counterintuitive result may reflect institutional frictions or transmission inefficiencies. For instance, China's exchange rate management regime, capital controls, and state-directed banking system may impede the effectiveness of transparency by limiting the responsiveness of market participants. Similarly, India's segmented financial markets and periodic political interventions in monetary affairs may weaken the signaling power of central bank disclosures, causing transparency to fail in reducing volatility, or even

increase it if markets perceive inconsistencies or a lack of credibility in communication.

These findings carry several important policy implications. First, the evidence confirms that greater transparency is not uniformly adequate across different institutional and financial contexts. While it can be a powerful stabilizing force in liberalized markets, its impact is contingent upon complementary factors, such as central bank independence, policy credibility, communication consistency, and market maturity. Second, for emerging and transitional economies, transparency reforms must be pursued in tandem with broader macroeconomic and financial development strategies. Without addressing deep-seated issues such as governance constraints, underdeveloped bond markets, and capital account restrictions, transparency alone may fail to produce the desired stabilizing effects — or worse, may induce confusion if signals are not credible or well understood.

Lastly, during periods of systemic stress, such as the 2007–2008 global financial crisis, the role of transparency becomes even more nuanced. As the estimation results from Models (5) and (6) indicate, heightened transparency during crises may actually coincide with increased volatility. This paradox may arise because even clear communication during highly uncertain times can signal deteriorating conditions, amplifying investor anxiety. Therefore, central banks must tailor their communication strategies during crises, striking a balance between transparency and reassurance, while maintaining policy clarity, to avoid unintended market destabilization.

4.3 The Overall Impact of Bank Transparency on Stock Market Volatility

This study investigates the relationship between central bank transparency and stock market volatility across a sample of Asian economies. Stock market volatility is measured as the standard deviation of monthly equity index returns, capturing the degree of uncertainty investors face in each country. The primary explanatory variable is the Central Bank Transparency Index (CNTI), which reflects the extent of de jure transparency in central bank practices, including policy frameworks, procedural openness, and communication of forecasts.

The empirical strategy employs a random effects model estimated via Maximum Likelihood Estimation (MLE). This method accounts for unobserved cross-sectional heterogeneity and delivers efficient parameter estimates in moderately sized samples. Six model specifications are estimated sequentially, with increasing layers of control variables to assess the robustness and conditionality of the transparency–volatility relationship. The integration of policy implications directly within each stage of the empirical analysis facilitates a comprehensive interpretation of the results.

In Model (1) of Table 2, which includes no country-specific controls, CNTI is negatively and significantly associated with market volatility. This result supports the baseline hypothesis that higher central bank transparency reduces financial market uncertainty. It implies that central banks with more open communication frameworks help anchor investor expectations, mitigate information asymmetries, and reduce speculative pricing behavior. From a policy perspective, the result underscores the importance of transparency as a foundational pillar for financial stability. This is particularly important in developing and emerging economies, where investors may rely more heavily on central

bank communication to interpret macroeconomic signals. Even in the absence of sophisticated financial systems or policy tools, transparency alone can play a stabilizing role by lowering the perceived information risk faced by market participants.

Model (2) introduces stock market-specific controls: stock turnover, trading volume-to-GDP, market capitalization-to-GDP, number of listed companies, and the S&P Global Index. The CNTI remains significantly negative, confirming that transparency exerts an independent influence on volatility beyond that of market microstructure. Among the control variables, turnover and volume are positively associated with volatility, likely reflecting speculative activity and short-horizon trading. In contrast, larger market capitalization and a greater number of listings are associated with lower volatility, consistent with increased depth and risk-sharing capacity. The robustness of CNTI in this specification reinforces the policy relevance of communication. Transparency is not a substitute for market development, but a complement. Well-developed markets benefit more from transparency, as it facilitates accurate pricing and reduces information asymmetry. This suggests that central banks in financially maturing economies should pursue transparency reforms in tandem with broader capital market deepening to maximize volatility-reducing benefits.

Model (3) incorporates monetary and foreign exchange controls, including bank lending rates, inflation, the effective exchange rate, and broad money-to-GDP ratios. The CNTI coefficient remains negative and statistically significant. Inflation, interest rates, and the money supply are positively associated with volatility, underscoring that macroeconomic instability directly translates into higher financial market uncertainty. This model provides a more nuanced insight into policy: transparency can serve as a macroprudential stabilizer, even amid inflationary or monetary shocks. Clear central bank communication—particularly forward-looking guidance and target commitments—can dampen the volatility-inducing effects of fluctuating inflation or credit conditions. In emerging markets, where inflation expectations are often weakly anchored, transparency enhances credibility and reduces the likelihood of market overreaction to monetary surprises.

Model (4) incorporates external capital flow controls, specifically net portfolio and foreign direct investment (FDI) inflows as a percentage of GDP. These indicators are statistically insignificant, while the negative and significant effect of CNTI persists. This suggests that, in the short run, domestic institutional transparency has a greater impact on equity volatility than external financial openness. The implication for policymakers—especially in globally integrated economies—is that central bank credibility remains a domestically controlled lever for market stability, even amid volatile capital flows. While attracting foreign investment is crucial for growth, managing market volatility primarily hinges on consistent and transparent communication of monetary policy, rather than the volume of capital inflows.

Model (5) introduces an interaction term between CNTI and a dummy variable for the 2007–2008 Global Financial Crisis (GFC). The coefficient on this interaction is positive and significant, indicating that transparency's stabilizing effect diminishes—or even reverses—during periods of systemic stress. This suggests that while transparency helps reduce volatility in regular periods, it may increase uncertainty in crisis settings. From a

policy standpoint, this finding marks a crucial inflection point. During crises, transparent communication may unintentionally expose internal uncertainties, amplify signals, or trigger overreactions among risk-averse investors. It underscores the need for crisis-sensitive communication strategies. Central banks may need to adjust their messaging—by modifying tone, clarity, or frequency—to mitigate the exacerbation of volatility during periods of extreme financial stress.

Model (6) isolates the GFC period and confirms the previous result: higher central bank transparency was associated with greater market volatility during the crisis. This strengthens the case for a regime-dependent interpretation of transparency—effective under stable conditions, but potentially destabilizing in high-uncertainty environments. The policy implication is clear: transparency should not be uniformly applied across all states of the world. While maintaining credibility and openness remains paramount, central banks may benefit from dual-track communication strategies that distinguish between standard and crisis regimes. During stable periods, full disclosure enhances market efficiency. During crises, however, strategic ambiguity, conditional guidance, or phased information release may help contain panic while preserving longer-term credibility.

Across all six models, the CNTI is consistently negatively associated with volatility—except during the crisis period—demonstrating both the strength and conditional nature of its effect. The adjusted R-squared increases from 0.19 in Model (1) to 0.51 in Model (6), underscoring the explanatory power added by each group of controls. The stability of the transparency coefficient across specifications, despite the inclusion of structural and macroeconomic variables, affirms its role as a distinct and policy-relevant determinant of financial market stability. These findings collectively suggest that central bank transparency is a powerful institutional tool for reducing stock market volatility—but its efficacy is context-dependent. Under normal macro-financial conditions, transparency anchors expectations and dampens information risk. In contrast, during systemic crises, it may amplify uncertainty if not managed strategically. Therefore, central banks should treat transparency not as a static commitment but as a flexible policy instrument, deployed with sensitivity to prevailing market dynamics.

4.4 The Individual Country Impact of Bank Transparency on Stock Market Volatility

To investigate whether the stabilizing effect of central bank transparency varies across institutional and financial environments, Table 3 presents country-specific estimates for eight Asian economies: Hong Kong, Japan, Singapore, China, India, South Korea, the Philippines, and Thailand. The specification incorporates interaction terms between country dummies and the Central Bank Transparency Index (CNTI), allowing for a granular examination of cross-country heterogeneity in the transparency–volatility relationship. In Model (1), CNTI retains a negative and statistically significant coefficient across all countries, confirming the core result: greater central bank transparency is associated with lower stock market volatility. This suggests that openness acts as a general stabilizing force across diverse institutional settings. The negative relationship remains robust as additional controls are introduced in Models (2) through (4), which sequentially include measures of market structure, monetary conditions, and cross-border investment flows. The stability of the CNTI coefficient across these specifications underscores its

independent explanatory power. It supports the notion that transparency exerts a direct effect on investor expectations and market dynamics, beyond that of underlying macro-financial fundamentals. Notably, Model (5) introduces an interaction term between CNTI and a dummy variable for a global financial crisis (GFC). While the interaction term is positive and statistically significant, indicating a partial attenuation of the transparency effect during systemic crises, the leading CNTI coefficient remains negative. This suggests that although the marginal impact of transparency weakens in periods of heightened uncertainty, it continues to exert a net stabilizing influence—reinforcing the institutional value of transparent monetary frameworks, even in turbulent conditions.

Beyond the average effect, the interaction terms reveal significant variation in how transparency affects volatility across countries. In Singapore, China, Thailand, and the Philippines, the CNTI interactions are large, negative, and statistically significant. For example, in Singapore, the transparency coefficient reaches -0.249 ($t = -6.36$), indicating a strong dampening effect on volatility. These economies are characterized by either high financial openness, relatively centralized monetary policy communication, or limited alternative channels for macroeconomic signaling. In such environments, central bank transparency provides a high-value public signal, reducing informational asymmetries and anchoring investor expectations. Conversely, for Japan and South Korea, the interaction terms are small and statistically insignificant. These results likely reflect diminishing marginal returns to transparency in highly developed, information-rich markets where policy communication is well institutionalized and investor uncertainty is structurally lower. In such settings, incremental improvements in transparency may yield little additional informational value to market participants.

The case of India stands out. While transparency exhibits an adverse effect in the baseline model, the interaction term becomes positive and significant in fully controlled models (e.g., $+0.525$; $t = 3.49$ in Model 2), indicating that increased transparency may in fact be associated with higher volatility. This counterintuitive result could reflect several structural frictions. First, transparency may be perceived as a signal of internal policy disagreement or institutional fragility, particularly if communication is inconsistent or contradictory. Second, India's heterogeneous investor base—comprising both sophisticated institutional investors and retail participants—may interpret disclosures asymmetrically, thereby amplifying short-term volatility. Third, credibility gaps in the monetary framework may lead market participants to overreact to policy signals, especially in the absence of clear long-term commitments or forward guidance structures.

These findings offer important insights for central banks designing communication frameworks under varied institutional and market conditions. First, for economies where transparency has a robust stabilizing effect—such as Singapore, China, Thailand, and the Philippines—central banks should regard transparency not merely as a democratic norm, but as a key monetary policy instrument. Improvements in forward guidance, inflation projections, and real-time disclosure of policy rationales can directly enhance market stability by reducing risk premia and moderating speculative behavior. Second, for cases such as India, the results underscore that transparency can be destabilizing if not accompanied by credibility, consistency, and message discipline. In these contexts, simply increasing the volume of disclosures may have unintended consequences. Instead, policy reforms should focus on enhancing institutional independence, clarifying policy

objectives, and building a strong reputation. Transparent communication must be clear, coherent, and trustworthy to mitigate volatility effectively.

Third, in highly mature markets like Japan and South Korea, where the marginal effect of transparency appears minimal, central banks might focus on qualitative enhancements to communication—such as improving accessibility, reducing jargon, and tailoring messaging for non-institutional audiences. The goal is to preserve credibility and accessibility without overwhelming markets with redundant information. Finally, the findings from the GFC period point to a crucial lesson: transparency is not universally beneficial across all regimes. In crisis periods, overly granular disclosures or ambiguous messaging may exacerbate investor anxiety. This calls for state-contingent communication strategies, in which central banks adjust the tone, frequency, and specificity of their disclosures according to prevailing risk conditions. Strategic ambiguity, conditional guidance, or phased messaging may help mitigate information overload while preserving trust and flexibility.

In sum, the cross-country analysis demonstrates that central bank transparency is a context-dependent policy lever, whose stabilizing effect depends on credibility, communication quality, and institutional maturity. When designed appropriately, transparency is a powerful tool for anchoring expectations and reducing asset price volatility. However, without supporting institutional infrastructure, it can introduce noise rather than clarity. Central banks must therefore calibrate their transparency regimes with strategic intent, market awareness, and institutional coherence to fully harness their potential for financial stability.

V. Discussion

The empirical analysis confirms a robust and economically meaningful relationship between central bank transparency and stock market volatility across Asian economies. Specifically, the results indicate that greater openness is associated with significantly lower stock return volatility, after controlling for market structure, monetary conditions, and international capital flows. This finding aligns with prior literature emphasizing the stabilizing role of central bank communication (e.g., Eijffinger & Geraats, 2006; Geraats, 2002), and extends it by offering evidence across a heterogeneous set of both advanced and emerging Asian markets.

The observed stabilizing effect of transparency suggests that clear, credible, and consistent communication from monetary authorities reduces information asymmetry and market speculation. By signaling future policy paths and reducing uncertainty about macroeconomic conditions, transparent central banks appear to anchor expectations more effectively, thereby dampening excessive market fluctuations. This effect persists even when accounting for domestic financial development and macroeconomic controls, underscoring the independent value of institutional communication frameworks.

Interestingly, the effect of transparency remains consistently negative and significant across all countries in the sample, including economies with relatively less mature financial systems. This implies that institutional features—such as policy clarity and effective communication—can yield volatility-reducing benefits even in contexts where

market infrastructure and regulatory capacity are still evolving. In that regard, transparency may serve as a low-cost policy instrument to enhance financial stability in emerging economies without requiring major structural reforms in the short term.

However, the analysis also uncovers a vital caveat: during the 2007–2008 global financial crisis, higher transparency was associated with increased stock market volatility. This result may appear counterintuitive at first, but it is consistent with theoretical insights from the literature on transparency under uncertainty (e.g., Morris & Shin, 2002). During crisis periods, when markets are susceptible to new information and policy credibility is under stress, detailed and frequent disclosures could inadvertently amplify volatility if interpreted as signals of policy weakness or limited policy options. These findings suggest that the effectiveness of transparency is context-dependent and that communication strategies must be tailored to prevailing market conditions. In tranquil times, transparency provides clarity and stability, but in crisis periods, it must be carefully managed to avoid unintended signaling effects.

Another important insight from the estimation is that stock market liquidity indicators—particularly turnover and trading volume relative to GDP—are positively associated with volatility. In contrast, deeper markets (as proxied by capitalization and number of listed firms) tend to exhibit lower volatility. This supports the notion that market depth and breadth play essential roles in absorbing shocks, reinforcing the complementary nature of financial development and central bank communication.

Furthermore, the insignificance of international capital flow variables (portfolio and FDI inflows) in most model specifications suggests that domestic institutional credibility outweighs global capital dynamics in shaping short-run market volatility. This is especially relevant in the Asian context, where several economies are increasingly integrated into international markets but maintain varying degrees of capital control and exchange rate flexibility.

Overall, the results contribute to a growing body of evidence that central bank transparency is not only beneficial for inflation targeting and macroeconomic credibility but also plays a direct role in mitigating asset price volatility. This is particularly relevant for Asia, where institutional quality, monetary frameworks, and market structures differ significantly across countries. The findings support the broader policy agenda of enhancing transparency as part of central bank modernization, particularly for emerging markets navigating the dual challenges of globalization and domestic financial development.

For investors, these results emphasize the importance of institutional factors in risk assessment. Exposure to more transparent monetary regimes may entail lower volatility risk, making such markets more attractive to long-term investors. For policymakers, the evidence underscores the need to strike a balance between transparency and prudence, particularly in times of crisis, suggesting a potential role for adaptive communication strategies.

VI. Conclusion

6.1 Concluding Remarks

This paper offers empirical insights into the role of central bank transparency as a stabilizing force in equity markets. Using a cross-country panel dataset covering eight Asian economies and applying a random panel modeling framework, we document a robust negative relationship between transparency and stock market volatility. This association holds across specifications controlling for financial structure, monetary policy, and capital flow controls, as well as during episodes of systemic distress.

Crucially, our findings highlight that transparency is not uniformly adequate across countries. In Singapore, China, Thailand, and the Philippines, increased transparency is associated with significant reductions in volatility—likely due to the combination of evolving institutional maturity, limited private information channels, and high sensitivity to public signals. In contrast, in Japan and South Korea, where policy communication is well established and credibility is high, additional transparency yields minimal marginal benefits. Notably, in India, transparency is correlated with increased volatility, suggesting that communication lacking consistency or perceived credibility may introduce noise rather than clarity.

These results underscore the importance of institutional context in shaping the effectiveness of central bank communication. Transparency is not simply a technical exercise in information provision but a strategic policy instrument that must be carefully calibrated to the surrounding environment. It can enhance monetary policy transmission, anchor expectations, and mitigate asset price instability—but only if deployed within a coherent, credible, and context-aware framework. The study contributes to a deeper understanding of the dynamic interplay between monetary policy transparency and market behavior, with significant implications for both theory and practice.

6.2 Policy Implications

The empirical findings presented in this study have direct and nuanced implications for the design of central bank communication strategies. First, the evidence that transparency significantly reduces stock market volatility in several emerging and semi-mature markets—particularly Singapore, Thailand, and the Philippines—suggests that central banks in such economies should treat transparency not only as a governance norm but as a core monetary policy instrument. Communication strategies that incorporate forward guidance, structured inflation reports, and public policy rationales can mitigate informational frictions, stabilize expectations, and reduce asset price volatility. Second, the case of India demonstrates that transparency without credibility or message coherence may exacerbate, rather than alleviate, uncertainty. In such contexts, reforms should focus on improving the clarity, consistency, and trustworthiness of central bank communication. This could include strengthening institutional independence, refining the structure of policy committees, and adopting forward-looking frameworks that enhance predictability and stability.

Third, in advanced economies like Japan and South Korea, where transparency appears to have negligible marginal effects on volatility, the priority should shift toward qualitative improvements in communication—making information more accessible, reducing technical complexity, and improving message targeting for diverse stakeholder groups. Lastly, the interaction results suggest that transparency may become less effective during periods of systemic stress. In such times, central banks should consider state-contingent communication regimes—adjusting tone, frequency, and specificity to avoid signaling uncertainty or policy limits. Calibrated, coordinated, and confidence-preserving communication during crises is critical to maintaining financial stability without amplifying investor anxiety.

6.3 Limitations

While this study contributes to the literature on monetary policy transparency and financial market behavior, several limitations warrant caution. First, the Central Bank Transparency Index (CNTI), while comprehensive, captures structural dimensions of transparency but may not fully reflect qualitative elements such as tone, interpretability, or the credibility of communication. These softer attributes can substantially influence how investors perceive and react to central bank disclosures. Second, the empirical framework focuses on monthly stock return volatility. While suitable for capturing medium-term uncertainty, it may understate high-frequency market reactions, especially during abrupt policy shifts or unanticipated announcements. Incorporating intraday or event-time data could yield more granular insights. Third, the sample is geographically concentrated in Asia, which may limit generalizability. Institutional structures, investor behavior, and communication norms vary widely across regions. Future extensions could benefit from comparative analyses involving central banks in Latin America, Europe, or Sub-Saharan Africa.

Fourth, although we control for a broad set of confounding variables, endogeneity concerns persist. It is possible that periods of heightened market stress influence a central bank's communication behavior, or that unobserved institutional factors jointly determine both transparency and volatility outcomes. These limitations suggest the need for complementary approaches, including instrumental variable techniques, text-based sentiment analysis, and high-frequency market studies, to validate further and extend the findings.

6.4 Future Research Directions

This study opens several promising avenues for future research. First, future work could examine the short-run market impact of transparency using high-frequency or event-study methodologies. Intraday data around central bank announcements, press conferences, or inflation report releases would allow researchers to identify the immediate causal effects of transparency-related disclosures on volatility and trading behavior. Second, there is growing potential in integrating textual analysis and machine learning into studies of central bank communication. Leveraging natural language processing (NLP) to analyze sentiment, readability, and ambiguity in policy statements can capture dimensions of communication quality that traditional structured indices often overlook. Third, future research could explore how transparency interacts with other monetary policy tools, such

as forward guidance, inflation targeting, or unconventional monetary interventions. For example, does transparency amplify or mitigate the market effects of quantitative easing in emerging markets?

Fourth, a promising direction involves examining how investor heterogeneity—such as institutional versus retail participation or domestic versus foreign ownership—modulates the response to central bank disclosures. This could clarify why transparency has stabilizing effects in some markets but not others. Finally, extending the analysis to a broader global sample or conducting natural experiments based on exogenous transparency reforms would enhance causal identification. Such studies could further refine our understanding of transparency as a strategic policy instrument in diverse institutional contexts.

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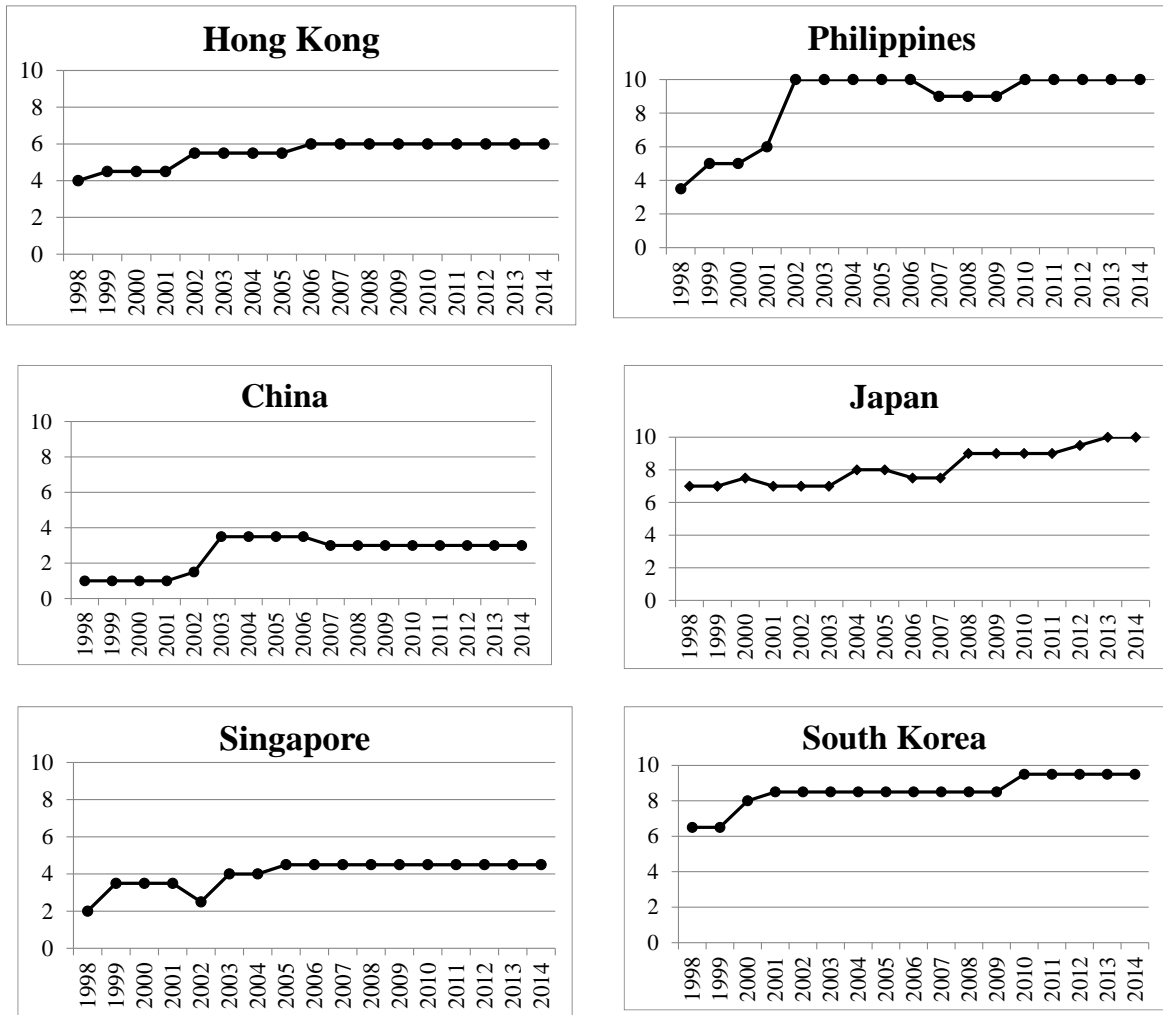


Figure 1

Transparency ratings of central banks in major Asian countries (1998-2014)

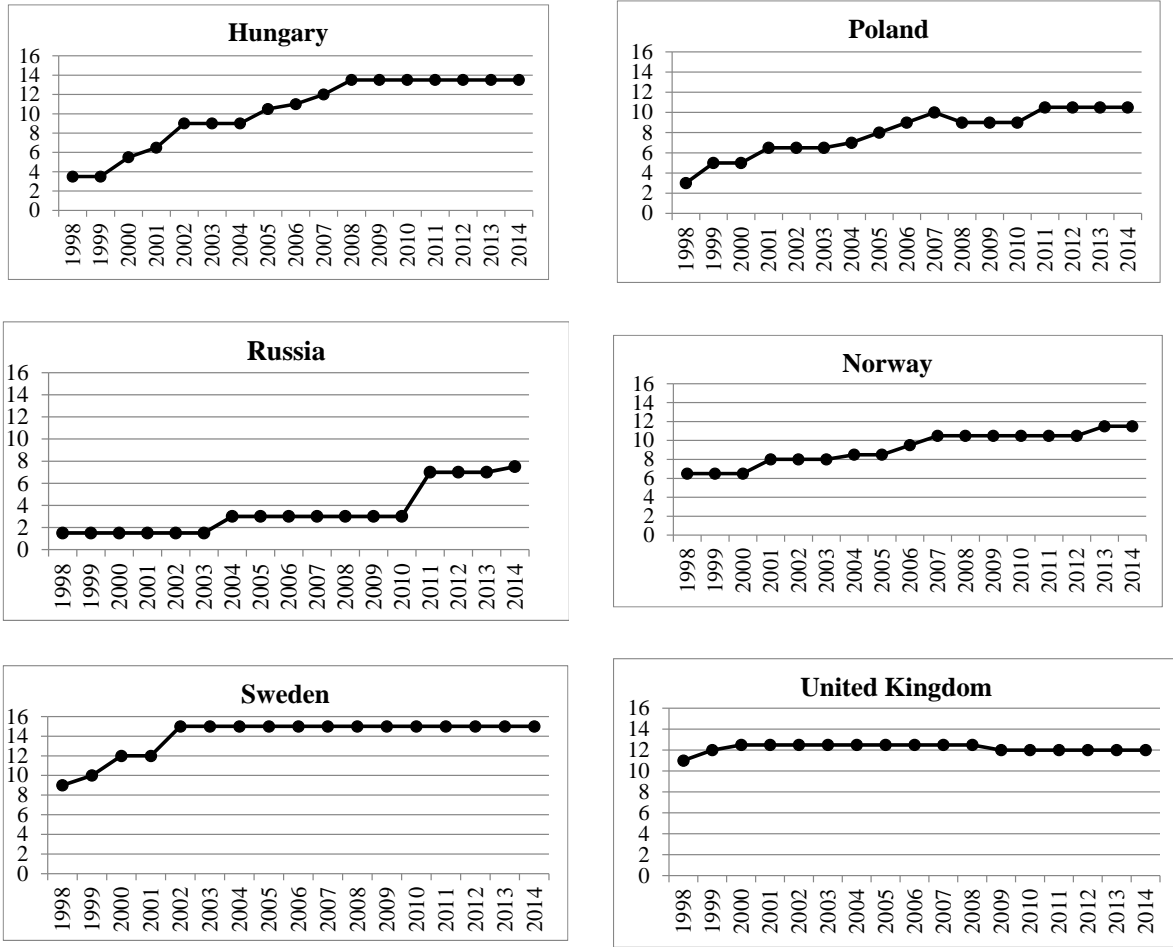
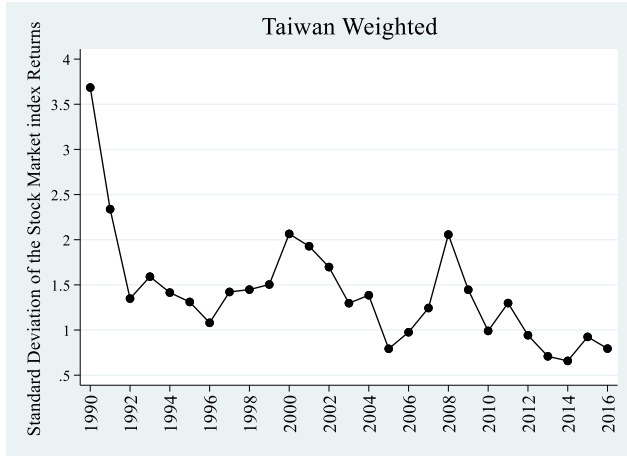
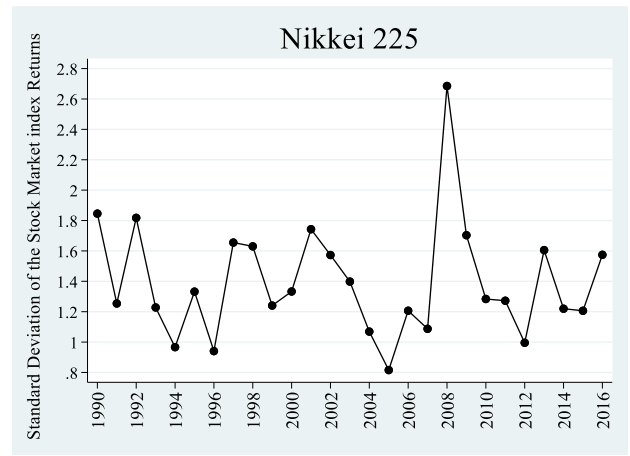


Figure 2

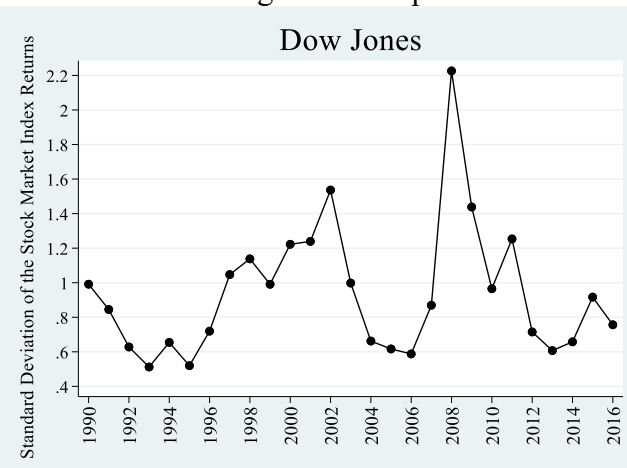
Transparency ratings of central banks in major European countries (1998-2014)



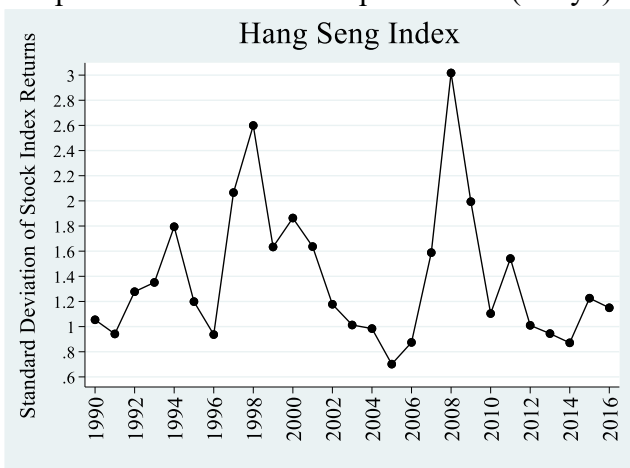
Taiwan's weighted stock price index



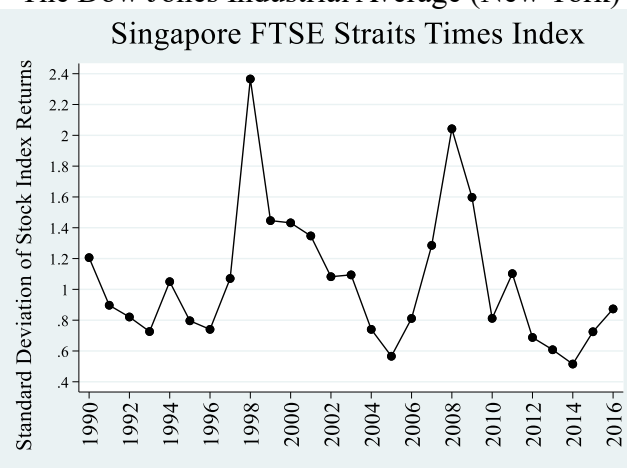
Japan's Nikkei 225 stock price index (Tokyo)



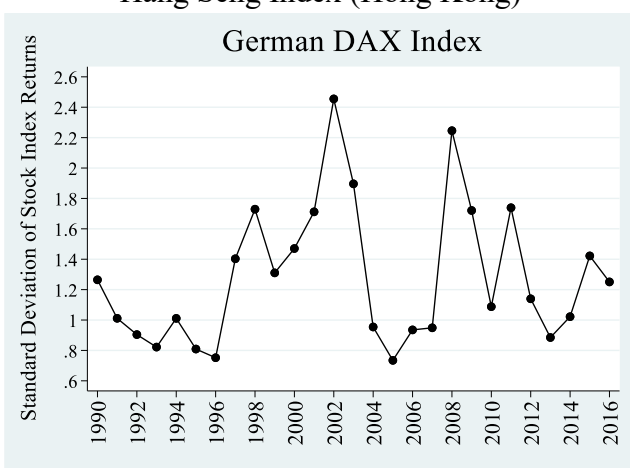
The Dow Jones Industrial Average (New York)



Hang Seng Index (Hong Kong)

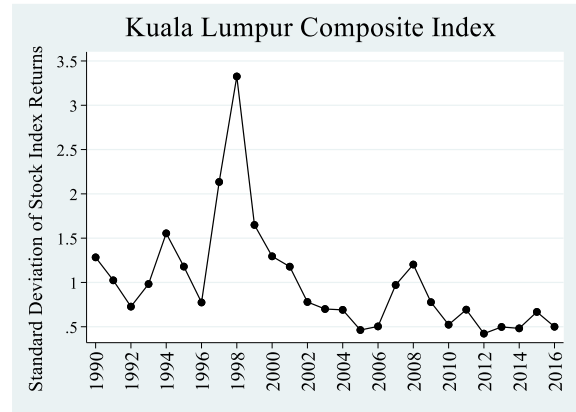
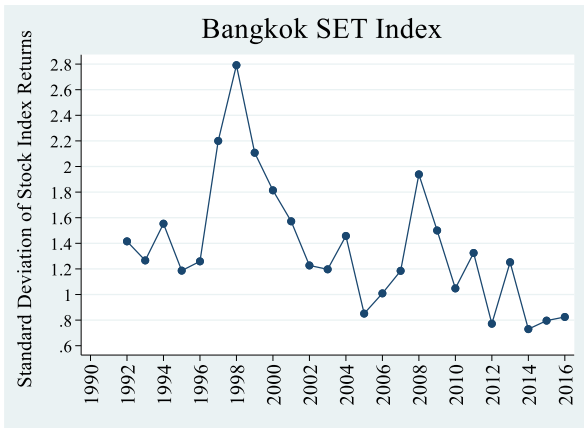


Singapore FTSE Straits Times Index



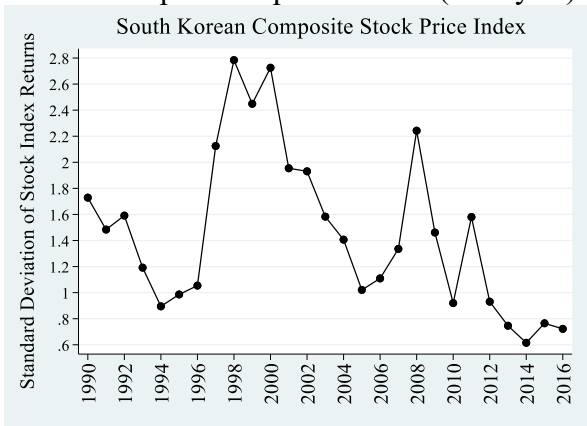
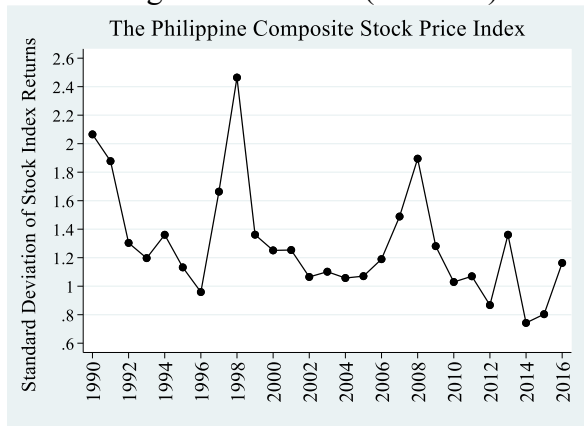
German DAX Index

Figure 3
 Time trend of standard deviation of stock index returns (1990 to 2016)



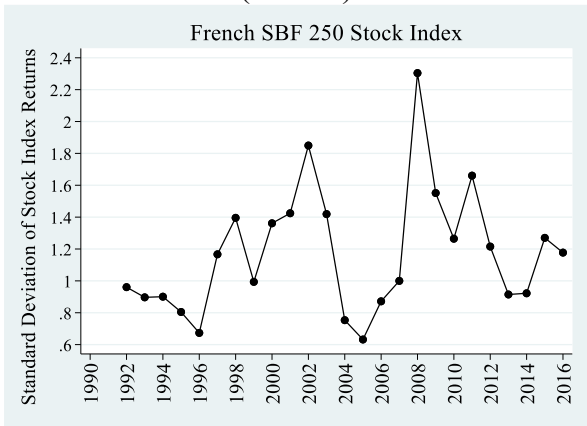
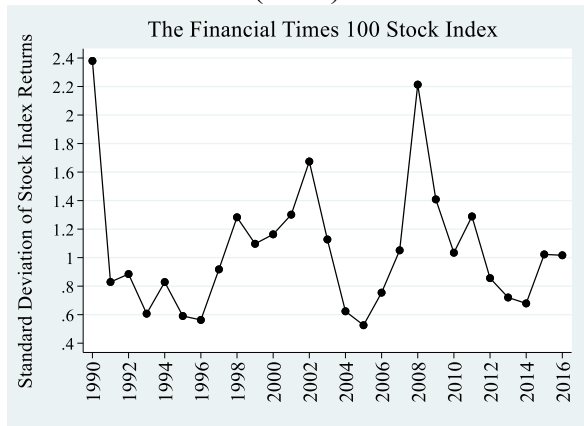
Bangkok SET Index (Thailand)

Kuala Lumpur Composite Index (Malaysia)



The Philippine Composite Stock Price Index (PCPI)

South Korean Composite Stock Price Index (KOSPI)



The Financial Times 100 Stock Index

French SBF 250 Stock Index

Figure 3 (Continued)

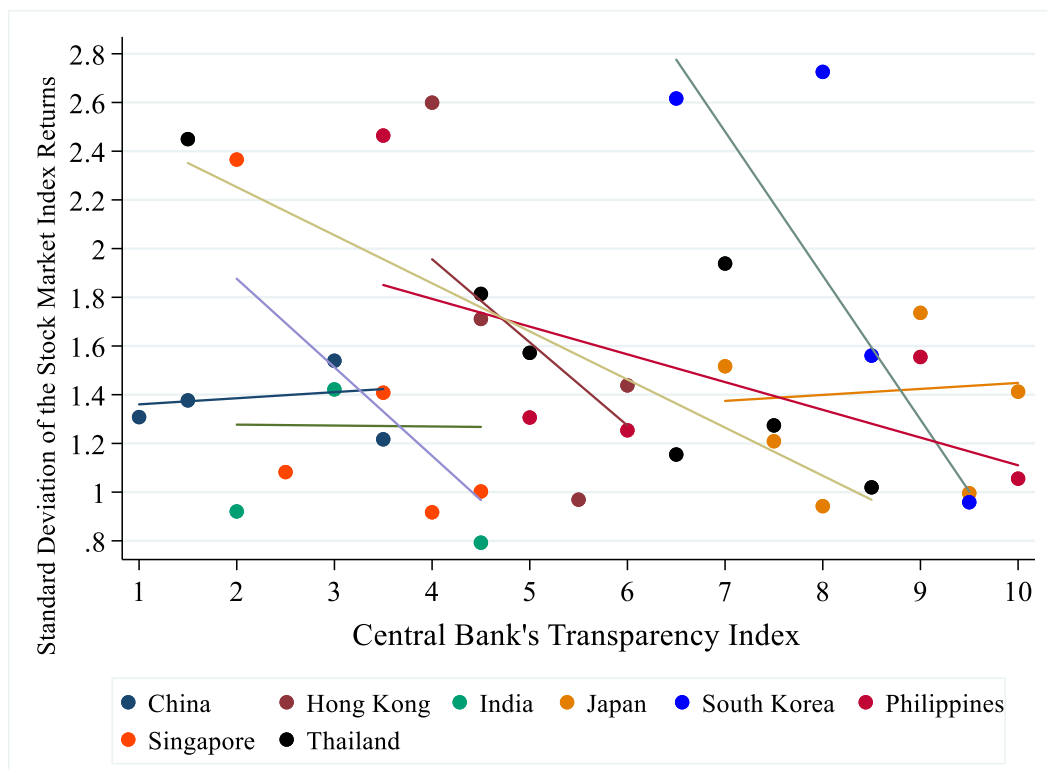


Figure 4

Relationship between central bank transparency index and standard deviation of stock price returns in Southeast Asian countries

Table 1
Descriptive statistics for the full sample and individual countries

Variables	Full sample					China					Hong Kong				
	Obs	Mean	SD	Min.	Max.	Obs	Mean	SD	Min.	Max.	Obs	Mean	SD	Min.	Max.
Stock Volatility Central Bank	130	1.37	0.53	0.52	3.02	17	1.40	0.46	0.99	2.76	17	1.44	0.64	0.70	3.02
Transparency Index (CNTI)	136	5.79	2.72	1.00	10.00	17	2.56	1.00	1.00	3.50	17	5.50	0.68	4.00	6.00
Stock Market Turnover	126	87.71	59.29	10.55	289.24	12	158.23	52.70	75.64	219.54	17	53.50	20.09	37.44	118.02
Stock Trading Volume	136	107.67	145.72	0.00	952.67	17	68.64	50.66	17.16	177.51	17	392.92	252.45	107.57	952.67
Stock Market Capitalization	126	171.72	261.35	17.58	1254.47	12	50.03	28.60	17.58	126.09	17	722.06	369.34	203.43	1254.47
S&P World Equity Index	135	0.01	0.04	-0.06	0.15	17	0.02	0.05	-0.05	0.10	17	0.01	0.03	-0.05	0.07
Number of Listed Companies	136	1.64	1.57	0.22	5.85	17	1.62	0.57	0.91	2.61	17	1.16	0.30	0.67	1.66
Effective Exchange Rate Index	136	0.17	0.37	0.00	1.40	17	0.01	0.00	0.01	0.01	17	0.01	0.00	0.01	0.01
Bank LendingRate	136	6.77	3.15	1.22	16.78	17	5.88	0.55	5.31	7.47	17	6.14	1.67	5.00	9.50
Inflation Rate	136	2.79	3.04	-4.02	13.23	17	1.89	2.24	-1.41	5.86	17	1.04	3.10	-4.02	5.26
Broad Money Supply (Money to GDP)	136	139.89	73.95	48.06	361.63	17	157.12	19.67	123.90	190.75	17	279.72	52.33	193.77	361.63
Net Portfolio Inflows to GDP	136	0.12	0.27	-0.70	1.70	17	0.18	0.16	0.01	0.52	17	0.17	0.18	-0.02	0.60
Net Foreign Direct Investment Inflows to GDP	136	6.68	9.75	-0.05	44.59	17	3.62	0.65	2.56	4.84	17	24.63	11.74	4.06	44.59
		Japan					South Korea					Philippines			
Stock Volatility Central Bank	17	1.40	0.42	0.82	2.69	17	1.58	0.68	0.62	2.78	17	1.27	0.40	0.74	2.46
Transparency Index (CNTI)	17	8.18	1.10	7.00	10.00	17	8.53	0.91	6.50	9.50	17	8.62	2.22	3.50	10.00
Stock Market Turnover	17	103.89	38.17	42.86	199.27	17	175.06	53.81	105.85	289.24	17	19.15	9.02	10.55	45.95
Stock Trading Volume	17	76.43	34.87	25.93	145.86	17	115.52	41.62	42.60	186.87	17	10.20	5.86	2.63	23.35
Stock Market Capitalization	17	72.98	17.91	50.29	101.85	17	69.11	25.17	30.44	99.99	17	53.03	23.66	22.75	91.93
S&P World Equity Index	17	0.01	0.03	-0.03	0.06	16	0.02	0.05	-0.06	0.12	17	0.01	0.04	-0.05	0.07
Number of Listed Companies	17	2.35	0.44	1.82	3.46	17	1.55	0.35	0.71	1.85	17	0.24	0.01	0.22	0.26
Effective Exchange Rate Index	17	0.11	0.01	0.08	0.13	17	1.14	0.12	0.93	1.40	17	0.05	0.01	0.04	0.06
Bank LendingRate	17	1.76	0.30	1.22	2.32	17	6.84	2.54	4.26	15.28	17	9.28	2.81	5.53	16.78
Inflation Rate	17	-0.01	0.98	-1.35	2.75	17	3.01	1.56	0.81	7.51	17	4.73	1.92	2.29	9.23
Broad Money Supply (Money to GDP)	17	214.11	16.64	194.09	237.43	17	111.98	28.19	49.00	139.78	17	59.08	5.47	50.41	71.62
Net Portfolio Inflows to GDP	17	0.47	0.58	-0.70	1.70	17	0.04	0.16	-0.33	0.25	17	0.01	0.01	0.00	0.02
Net Foreign Direct Investment Inflows to GDP	17	0.19	0.16	-0.05	0.49	17	1.16	0.42	0.66	2.05	17	1.46	0.71	0.54	3.17

Note: Obs is Number of Observations. Mean is Mean (Arithmetic Average); SD is Standard Deviation; Min. is Minimum Value; Max. is Maximum Value.

Table 1 (Continued)

Variables	Thailand					India					Singapore				
	Obs	Mean	SD	Min.	Max.	Obs	Mean	SD	Min.	Max.	Obs	Mean	SD	Min.	Max.
Stock Volatility	17	1.40	0.53	0.73	2.79	11	1.27	0.55	0.79	2.64	17	1.15	0.52	0.52	2.37
Central Bank Transparency Index (CNTI)	17	6.32	2.15	1.50	8.50	17	2.62	0.70	2.00	4.50	17	4.00	0.77	2.00	4.50
Stock Market Turnover	17	78.22	14.29	57.20	102.84	12	77.06	27.85	46.89	142.99	17	54.21	15.79	26.65	95.49
Stock Trading Volume	17	48.03	20.34	15.29	83.33	17	43.45	28.36	0.00	95.20	17	106.17	35.22	65.48	211.85
Stock Market Capitalization	17	61.87	25.10	23.12	106.46	12	76.37	29.42	45.13	151.46	17	204.49	60.87	110.38	299.57
S&P World Equity Index	17	0.02	0.05	-0.05	0.15	17	0.02	0.05	-0.06	0.09	17	0.01	0.03	-0.05	0.08
Number of Listed Companies	17	0.49	0.08	0.38	0.61	17	5.27	0.41	4.73	5.85	17	0.43	0.09	0.26	0.56
Effective Exchange Rate Index	17	0.04	0.00	0.03	0.04	17	0.05	0.01	0.04	0.06	17	0.00	0.00	0.00	0.00
Bank LendingRate	17	7.27	2.03	5.50	14.42	17	11.46	1.35	8.33	13.54	17	5.54	0.52	5.30	7.44
Inflation Rate	17	2.76	2.11	-0.85	7.99	17	7.12	3.22	3.68	13.23	17	1.80	1.97	-0.39	6.52
Broad Money Supply (Money to GDP)	17	111.35	7.92	100.38	128.01	17	67.60	10.99	48.06	80.15	17	118.17	10.44	103.44	132.64
Net Portfolio Inflows to GDP	17	0.01	0.05	-0.09	0.10	17	0.10	0.13	-0.15	0.33	17	0.01	0.07	-0.12	0.18
Net Foreign Direct Investment Inflows to GDP	17	3.39	1.35	0.67	6.43	17	1.46	0.86	0.46	3.66	17	17.53	6.13	6.35	26.52

Note: Obs is Number of Observations. Mean is Mean (Arithmetic Average); SD is Standard Deviation; Min. is Minimum Value; Max. is Maximum Value.

Table 2

The Impact of Central Bank Transparency on Stock Market Volatility: Southeast Asian Countries

Variables	Dependent Variable: Standard Deviation of the Stock Market Index Returns					
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Constant	1.971*** (7.20)	2.165*** (7.68)	0.655 (1.39)	0.665 (1.44)	0.623 (1.38)	0.083 (0.21)
Central Bank's Transparency Index (CNTI)	-0.103** (-2.39)	-0.135*** (-5.36)	-0.053* (-1.80)	-0.056* (-1.94)	-0.062** (-2.19)	
Global Financial Crisis x Central Bank Transparency Index (CNTI)					0.034** (2.27)	0.031** (2.04)
Stock Market Turnover (%)		0.006*** (4.90)	0.006*** (5.35)	0.006*** (5.14)	0.005*** (4.82)	0.006*** (4.96)
Stock Trading Volume/GDP		0.002*** (3.32)	0.002*** (3.83)	0.002*** (4.08)	0.002*** (3.33)	0.002*** (3.30)
Stock Market Capitalization/GDP		-0.001*** (-3.21)	-0.002*** (-4.35)	-0.002*** (-4.12)	-0.002*** (-3.99)	-0.002*** (-4.03)
S&P World Equity Index		-0.384 (-0.41)	-0.007 (-0.01)	0.281 (0.30)	0.494 (0.54)	0.168 (0.18)
Number of Listed Companies		-0.343*** (-3.13)	-0.443*** (-3.25)	-0.410*** (-3.31)	-0.408*** (-3.13)	-0.469*** (-2.91)
Effective Exchange Rate Index			0.107 (0.24)	0.126 (0.28)	0.285 (0.60)	0.213 (0.39)
Bank Lending Rate (%)			0.095*** (3.67)	0.098*** (3.77)	0.097*** (3.80)	0.129*** (6.10)
Inflation Rate			0.053*** (3.00)	0.050*** (2.86)	0.045*** (2.63)	0.042** (2.44)
Broad Money Supply/GDP			0.003* (1.66)	0.003* (1.71)	0.004** (2.01)	0.005** (2.11)
Net Portfolio Inflows/GDP				-0.193 (-1.46)	-0.135 (-1.02)	-0.111 (-0.82)
Net Foreign Direct Investment Inflows/GDP				-0.006 (-0.76)	-0.005 (-0.67)	-0.006 (-0.75)
Observations	130	124	124	124	124	124
Country	8	8	8	8	8	8
Log likelihood	-99.52	-65.48	-48.19	-46.71	-44.19	-46.50

Note: Robust *t*-statistics present in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% confidence levels, respectively.

Table 3

The Individual Country's Impact of Central Bank Transparency (CBT) on Stock Market Volatility:
Southeast Asian Countries

Variables	Dependent Variable: Standard Deviation of the Stock Market Index Returns				
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
Constant	2.130*** (11.26)	2.289*** (12.34)	0.904** (2.20)	0.909** (2.20)	0.868** (2.16)
Central Bank's Transparency Index (CNTI)	-0.128*** (-3.20)	-0.084 (-1.60)	-0.049 (-0.74)	-0.051 (-0.77)	-0.075 (-1.16)
Japan x CBT	-0.087*** (-3.24)	-0.025 (-0.87)	0.012 (0.30)	0.012 (0.30)	-0.009 (-0.22)
Singapore x CBT	-0.249*** (-4.61)	-0.304*** (-6.36)	-0.168*** (-3.11)	-0.163*** (-2.79)	-0.172*** (-3.01)
Chinax CBT	-0.247*** (-3.18)	-0.285*** (-4.06)	-0.225*** (-2.82)	-0.223*** (-2.82)	-0.233*** (-3.03)
India x CBT	-0.278*** (-3.56)	0.525*** (3.49)	0.515*** (3.63)	0.476*** (3.31)	0.461*** (3.29)
South Korea x CBT	-0.071*** (-2.73)	-0.134*** (-5.41)	-0.154** (-2.44)	-0.167*** (-2.64)	-0.193*** (-3.10)
Philippines x CBT	-0.101*** (-4.12)	-0.109*** (-5.18)	-0.071*** (-3.02)	-0.073*** (-3.10)	-0.076*** (-3.33)
Thailand x CBT	-0.124*** (-3.84)	-0.183*** (-7.02)	-0.133*** (-4.59)	-0.134*** (-4.68)	-0.138*** (-4.95)
GFC x CBT					-0.037*** (-2.68)
Stock Market Turnover (%)		0.007*** (6.57)	0.006*** (6.21)	0.006*** (5.87)	0.006*** (5.48)
Stock Trading Volume/GDP		0.002*** (3.48)	0.002*** (4.10)	0.002*** (4.30)	0.002*** (3.55)
Stock Market Capitalization/GDP		-0.001*** (-2.68)	-0.002*** (-4.47)	-0.002*** (-4.42)	-0.002*** (-4.30)
S&P World Equity Index		-0.662 (-0.80)	-0.288 (-0.33)	-0.058 (-0.07)	0.111 (0.13)
Number of Listed Companies		-0.623*** (-6.51)	-0.616*** (-6.69)	-0.586*** (-6.21)	-0.570*** (-6.19)
Effective Exchange Rate Index			0.502 (1.07)	0.581 (1.24)	0.801* (1.73)
Bank Lending Rate (%)			0.067*** (2.87)	0.068*** (2.89)	0.068*** (2.97)
Inflation Rate			0.045*** (2.81)	0.043*** (2.64)	0.037** (2.33)
Broad Money Supply/GDP			0.005** (2.16)	0.005** (2.17)	0.005** (2.56)
Net Portfolio Inflows/GDP				-0.171 (-1.40)	-0.114 (-0.95)
Net Foreign Direct Investment				-0.003 (-0.36)	-0.002 (-0.26)
Observations	130	124	124	124	124
Country	8	8	8	8	8
Log likelihood	-90.09	-39.12	-23.14	-22.02	-18.54

Note: Robust *t*-statistics present in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% confidence levels, respectively.