Market Efficiency of the Malaysian Ringgit Against the Selected Asean Currencies Exchange Rates, For Pre-, During, And Post-Covid-19 Pandemic

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ABSTRACT

This study investigates the weak-form Efficient Market Hypothesis (EMH) for the Malaysian Ringgit (MYR) against selected ASEAN currencies, namely Brunei Darussalam (BND), Indonesia (IDR), the Philippines (PHP), Singapore (SGD), and Thailand (THB), using monthly bilateral exchange rate data from 1990 to 2023. The analysis employs the Augmented Dickey-Fuller (ADF) unit root test to examine whether the exchange rates follow a random walk process, thereby testing the validity of the weak-form EMH across three distinct periods: pre-, during, and post-COVID-19. The findings confirm that all bilateral exchange rate series are integrated of order one, I(1), and are therefore consistent with the weak-form EMH. They show that all bilateral exchange rate series are non-stationary at level but stationary after first differencing. This suggests that ASEAN foreign exchange markets are generally efficient and that historical exchange rate data cannot forecast future movements. However, due to increased uncertainty and decreased market stability, efficiency momentarily declined during the COVID-19 pandemic, especially for MYR/Philippines and MYR/Brunei. As exchange rate volatility returned to normal, post-pandemic results indicate a partial recovery in efficiency. The results show how ASEAN foreign exchange markets are becoming more resilient and integrated, but they also stress how crucial transparent monetary policy, regional cooperation, and financial market depth are to maintaining informational efficiency.

Keywords: Weak-Form EMH, Malaysian Ringgit, ASEAN Currencies, Unit Root Test JEL Classification: F31, G14, C22, F15

INTRODUCTION

The international trade between two countries relies on the conversion rate between two currencies. In other words, exchange rate is extremely important to international trade. The exchange rate is the conversion rate between two currencies, which determines how much one currency is to be exchanged for a unit of another currency. Exchange rates apply to most countries, especially open economies that conduct international trade, both imports and exports. When the domestic currency appreciates, imports become cheaper, and exports become more expensive. Conversely, when the domestic currency depreciates, imports become more expensive, and exports become cheaper. Thus, the exchange rate is essential in affecting the relative price levels of domestic and foreign goods and services. Therefore, the changes in exchange rate affect international trade. This justifies the importance of exchange rates in terms of international trade. Besides that, exchange rates also affect capital flows. When the domestic currency has a large appreciation, it may reduce capital inflows in the form of foreign direct investments because the prices of domestic assets increase. It makes the foreign investments become more expensive and less attractive to foreign investors. Capital inflows may increase if the domestic assets become cheaper when the domestic currency depreciates significantly. Hence, exchange rates can intensely affect capital flows.

The issue of the market efficiency or informational efficiency of exchange rates had started to gain more attention from researchers from time to time, especially in recent years, but the related studies were so far limited. More empirical evidence is needed to explain the market efficiency of exchange rates. It had been highlighted in the past by Hamilton (2018) that a country's international trade and capital flows were affected by exchange rates. The market of foreign exchange needs to be informationally efficient to ensure exchange rates are reflecting information quickly and sufficiently, the market is fairer, and the market is less risky. All these criteria will support international trade and capital flows, and they are very relevant to a free trade area. Since its establishment, the ASEAN Free Trade Area (AFTA) has been successfully reducing tariffs in the international trade among its member countries (Sukegawa, 2021). Meantime, it is believed that the ASEAN international trade will be increased if the exchange rates among the ASEAN countries are efficient. The informational efficiency of the Malaysian Ringgit against the ASEAN currencies' exchange rates has not drawn much attention in research so far. It is crucial to investigate this topic to strengthen the international trade and capital flows between Malaysia and ASEAN countries. This research seeks to answer the question of whether Malaysia is benefiting from the market efficiency of the Malaysian Ringgit against the selected ASEAN currencies' exchange rates. Furthermore, the topic will be more insightful by studying the periods before, during, and after the COVID19 pandemic, such as in Azzam et al. (2023) and Kumar and Pathak (2025). The recent studies that included the effect of the pandemic showed the global event was relevant and influential.

In this study, the weak-form EMH for the Malaysian Ringgit is examined against the selected ASEAN currencies' exchange rates for pre-, during, and post-COVID-19 pandemic. The ten ASEAN currencies are the Malaysian Ringgit, the Singapore Dollar, the Indonesian Rupiah, the Thai Baht, the Philippine Peso, the Vietnamese Dong, the Brunei Dollar, the Lao Kip, the Myanmar Kyat, and the Cambodian Riel. This research only selected the currencies of Malaysia, Brunei, Singapore, Indonesia, Thailand, and the Philippines because these countries are a complete free trade area. AFTA was first established by signing the agreement in 1992 by these six ASEAN countries. There is strong reason to study this topic because the informational efficiency of the Malaysian Ringgit against the selected ASEAN currencies' exchange rates is desired for international trade and capital flows, but it is yet to be sufficiently explored. If the market is informationally efficient, there are no consistent abnormal returns to be earned from trading the currencies based on existing prediction patterns (Fama, 1970; Fama, 1991). Informational efficiency is important because it means prices will reflect information quickly and sufficiently, and therefore resources will be allocated efficiently, the market will be fairer, and it will be less risky for traders and investors who depend on exchange rates in international trade capital flows. It is understood that the selected ASEAN countries are in a complete free trade area; therefore, the international trade and capital flows in this area are seemingly important. Thus, a study on the informational efficiency for the Malaysian Ringgit against the selected ASEAN currencies' exchange rates is insightful. The remainder of this paper is, literature review in Section 2, data and methodology in Section 3, estimated results in Section 4, and conclusion in Section 5.

LITERATURE REVIEW

The efficiency of foreign exchange markets in the Asia-Pacific region has attracted significant scholarly attention, with findings consistently demonstrating that market efficiency varies across regimes, time periods, and levels of financial development. Ahmad et al. (2012) examined twelve Asia-Pacific currencies and found that efficiency is closely linked to the type of exchange rate regime and the nature of financial shocks. Their results indicated that freely floating exchange rate systems were more resilient in processing new information compared to managed float regimes, where official intervention and capital controls tend to delay market adjustments. The study also concluded that the 1997 Asian Financial Crisis disrupted market efficiency more severely than the 2008 Global Financial Crisis, underscoring that region-specific financial turmoil can exert a deeper and more prolonged influence on informational efficiency.

Extending this inquiry, Putra et al. (2016) investigated the ASEAN-5 currencies, namely Indonesia, Thailand, Malaysia, Singapore, and the Philippines, after the Global Financial Crisis and observed that efficiency generally held within individual markets but weakened across countries. Their results suggest that while domestic foreign exchange markets have become more adaptive and efficient, cross-country informational integration remains

limited, likely due to heterogeneous policy frameworks and differing levels of financial openness within the region. This finding highlights the challenge of achieving consistent efficiency across the ASEAN currency bloc despite the trade and financial liberalization promoted under the ASEAN Free Trade Area (AFTA) framework.

Further evidence from Yamani (2021) demonstrated that exchange rate efficiency is inherently time-varying and sensitive to macro-financial shocks. Examining both developed and emerging markets, Yamani found that efficiency tended to weaken during crisis periods, reflecting temporary distortions in information flows and market expectations. In a related study, the International Monetary Fund (2016) analyzed the behavior of ASEAN-5 exchange rates using structural-break and nonlinear unit root tests. The findings indicated that exchange rate persistence increased following major policy shifts and crises, suggesting that market efficiency deteriorates in the presence of structural changes, such as capital account liberalization, policy realignment, or exchange rate interventions. In particular, the Malaysian Ringgit and Indonesian Rupiah exhibited heightened persistence during crisis episodes, implying slower adjustment to new information.

The outbreak of the COVID-19 pandemic renewed academic interest in understanding how global disruptions influence exchange rate dynamics. Azzam et al. (2023) provided comprehensive evidence from 26 developed and emerging market currencies, showing that while weak-form efficiency was largely upheld before the pandemic, it deteriorated significantly during 2020–2021 due to heightened uncertainty, risk aversion, and capital flow volatility. Complementing these findings, Shahrier et al. (2022) examined contagion effects among ASEAN-5 exchange rates and reported that the pandemic intensified cross-market comovements, reducing the independence of exchange rate adjustments and weakening individual market efficiency. This result suggests that crises can heighten regional interdependence, leading to a temporary convergence in currency movements. Similarly, Kumar and Pathak (2025) found that the pandemic weakened the turn-of-the-month effect in cryptocurrency markets, confirming that informational efficiency can deteriorate even in highly liquid digital markets under conditions of systemic uncertainty.

Taken together, these studies provide converging evidence that foreign exchange market efficiency is dynamic rather than absolute, fluctuating in response to structural and cyclical factors such as exchange rate regimes, capital market depth, and global shocks. They also highlight a methodological gap in the existing literature. Most studies assess efficiency using USD-denominated exchange rates, which, while useful for capturing global dynamics, obscure bilateral intra-ASEAN relationships that are increasingly relevant to regional financial integration. Moreover, few studies have explicitly examined how institutional features, such as the Currency Interchangeability Agreement between Brunei Darussalam and Singapore, shape observed patterns of efficiency in empirical testing.

This study extends the existing literature by focusing on the bilateral exchange rates of the Malaysian Ringgit (MYR) against key ASEAN currencies rather than USD-based rates. By adopting a monthly dataset from 1990 to 2023 and segmenting it into pre-, during-, and post-COVID-19 phases, the analysis provides a more granular view of how informational efficiency evolves across distinct economic environments. This approach allows for a clearer understanding of Malaysia's position within the ASEAN currency network and the degree to which regional monetary linkages influence the Ringgit's efficiency. In doing so, the study complements earlier regime- and crisis-based findings (Ahmad et al., 2012; Putra et al., 2016; IMF, 2016; Yamani, 2021;
Azzam et al., 2023; Shahrier et al., 2022) and addresses a key gap in the literature concerning intra-ASEAN exchange rate dynamics and their implications for sustained financial integration in the post-pandemic era.

DATA AND METHODOLOGY

3.1 Data

This study uses monthly bilateral exchange rate data from January 1990 to December 2023 for the Malaysian Ringgit (MYR) against five chosen ASEAN currencies: Brunei Darussalam (BND), Indonesia (IDR), the

Philippines (PHP), Singapore (SGD), and Thailand (THB). The dataset was obtained from the World Bank's World Development Indicators (WDI), which reports official exchange rates as the ratio of local currency units (LCU) per U.S. dollar (USD).

Since the WDI provides exchange rates against the U.S. dollar, bilateral exchange rates of the Malaysian Ringgit against each ASEAN currency were derived indirectly using the following formula:

$$\frac{MYR}{X} = \frac{MYR/USD}{X/USD} \quad (1)$$

Where MYR/X denotes the bilateral exchange rate of the Malaysian Ringgit against another ASEAN currency. This transformation allows for direct examination of the informational efficiency of the Ringgit relative to ASEAN trading partners, rather than against the USD benchmark alone.

The dataset is divided into three subperiods to capture structural shifts associated with the COVID-19 pandemic:

- Pre-COVID-19 (1990–2019): representing long-run exchange rate behavior before the pandemic;
- During COVID-19 (2020–2021): capturing the global financial and trade disruptions;
- Post-COVID19 (2022–2023): reflecting market stabilization and recovery.

The selection of monthly frequency provides sufficient observations to detect both long-term trends and short-term adjustments in exchange rate dynamics, thereby increasing the robustness of the econometric tests. All data series were transformed into natural logarithms prior to estimation to interpret the results in relative percentage terms.

3.2 Methodology

The choice of annual frequency ensures consistency across all sample countries and captures long-term dynamics in exchange rate movements across different economic and policy regimes, including the pre-, during, and post-COVID-19 periods. The ADF test was employed to examine the presence of unit roots in the bilateral exchange rate series. This test remains the most widely adopted and theoretically consistent approach for assessing the weak-form Efficient Market Hypothesis (EMH), particularly in studies of currency and financial market efficiency (Fama, 1970; Dickey & Fuller, 1979; Lean & Smyth, 2007). The reliance on the ADF test is methodologically justified because it aligns directly with the random walk hypothesis underlying the weak-form EMH: if a series contains a unit root, past information cannot systematically predict future movements, implying informational efficiency .

3.2.1 Unit Root Test (Augmented Dickey-Fuller Test)

This test evaluates whether a time series is stationary or has a unit root, indicating a stochastic trend. Identifying the presence of a unit root is crucial for understanding the long-term behavior of exchange rates and making reliable forecasts. In this study, the unit root test is performed using the Augmented Dickey-Fuller (1979) or ADF test, which determines if the exchange rate series is non-stationary and possesses a unit root. The ADF test handles autocorrelation in the residuals when testing for a unit root in a time series (Pinjaman & Mori, 2020; Zulkifli et al., 2022).

$$\Delta Y_t = \alpha + \beta Y_{t-1} + \sum_{i=1}^{p} \gamma_i \Delta Y_{t-i} + \epsilon_t \quad (2)$$

Where ΔY_t is the first difference of the series, α is a constant, β is the coefficient to be tested, and ϵ_t is white noise. The null hypothesis (H_0) that the series has a unit root ($\beta = 0$) is tested against the alternative hypothesis

(H_1) that the series is stationary ($\beta < 0$). The ADF regression is estimated, and the t-statistic for β is computed. The computed t-statistic is compared to critical values from the Dickey-Fuller distribution to test the null hypothesis of a unit root.

RESULTS

4.1 Descriptive Statistics

Using monthly data from 1990 to 2023, Table 1 displays the descriptive statistics of the bilateral exchange rates of the Malaysian Ringgit (MYR) against the selected ASEAN currencies, Brunei Darussalam (BND), Indonesia (IDR), the Philippines (PHP), Singapore (SGD), and Thailand (THB), pre, during, and post COVID19.

Table 1: Descriptive Statistics of Exchange Rates

Country	N	Mean	Std. Dev.	Min	Median	Max
Pre COVID-19 (1990 – 2019)						
MYR/BND	360	2.236	0.363	1.802	2.083	3.148
MYR/IDR	360	0.0005	0.0002	0.0001	0.0004	0.0013
MYR/PHP	360	0.083	0.017	0.054	0.080	0.119
MYR/SGD	360	2.238	0.363	1.802	2.084	3.148
MYR/THB	360	0.103	0.016	0.065	0.101	0.154
During COVID-19 (2020-2021)						
MYR/BND	24	3.068	0.079	2.949	3.058	3.252
MYR/IDR	24	0.0003	0.00002	0.00027	0.00029	0.00036
MYR/PHP	24	0.085	0.001	0.083	0.085	0.086
MYR/SGD	24	3.069	0.079	2.949	3.059	3.253
MYR/THB	24	0.132	0.004	0.126	0.132	0.139
Post COVID-19 (2022-2023)						
MYR/BND	24	3.293	0.133	3.049	3.290	3.573
MYR/IDR	24	0.0003	0.00001	0.00028	0.00029	0.00031
MYR/PHP	24	0.082	0.003	0.078	0.081	0.086
MYR/SGD	24	3.293	0.133	3.050	3.290	3.573
MYR/THB	24	0.129	0.006	0.121	0.129	0.140

Bilateral exchange rates were comparatively stable prior to COVID-19, especially when compared to Brunei and Singapore, which upheld one-to-one parity under the Currency Interchangeability Agreement. The weaker regional currencies in comparison to the Ringgit are reflected in the lower mean values of the MYR/IDR and MYR/PHP pairs.

Most exchange rates exhibit a slight depreciation of the Ringgit during the COVID-19 period, which corresponds with capital outflows and regional economic disruptions. The majority of pairs' standard deviations marginally increased, suggesting increased short-term volatility.

Exchange rate stability progressively returned in the post-COVID-19 era. Nonetheless, in line with the strength of the US dollar globally in 2022–2023, the MYR continued to exhibit a slight depreciation against the Singaporean and Bruneian currencies. According to the descriptive statistics, exchange rate volatility peaked during the pandemic and then subsided, which is in line with the ADF findings that show a brief decline in efficiency followed by a recovery.

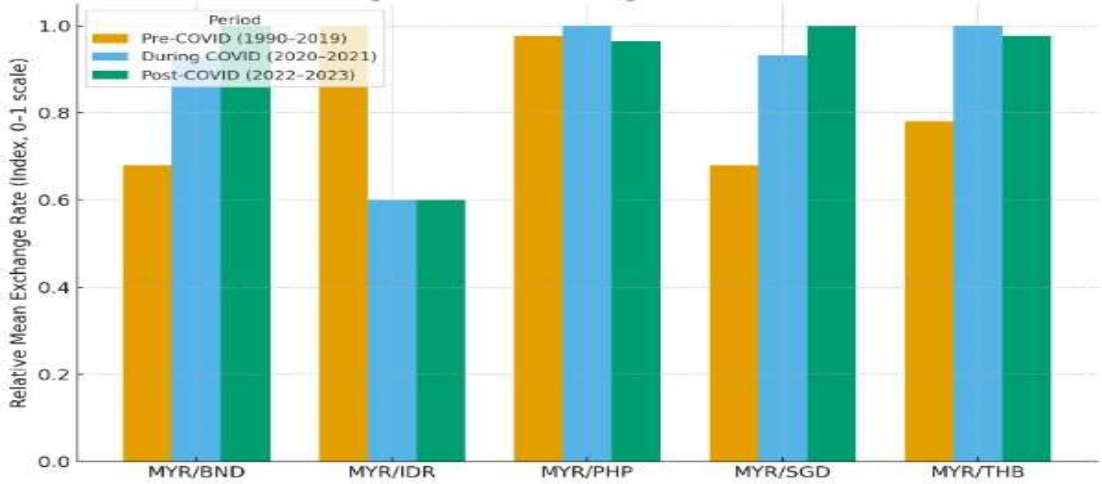

Figure 1: Normalized Mean Bilateral Exchange Rates of MYR Against Selected ASEAN Currencies (1990-2023)

Figure 1 complements the descriptive statistics by visually summarizing the normalized mean bilateral

exchange rates of the Malaysian Ringgit (MYR) against selected ASEAN currencies . The figure shows that the MYR experienced a clear depreciation against the Brunei and Singapore dollars in the post-COVID-19 period, reflecting the strengthening of these currencies under their near-peg arrangement. In contrast, the MYR maintained relative stability against the Indonesian rupiah and Philippine peso throughout the three phases, while a mild depreciation is observed against the Thai baht following the pandemic. Overall, the visualization indicates that the pandemic had a differentiated impact across regional exchange rates, with high-income ASEAN currencies showing stronger resilience and appreciation relative to the Ringgit.

4.2 ADF Unit Root Test Results

The findings of the Augmented Dickey-Fuller (ADF) unit root tests conducted on the bilateral exchange rates of the Malaysian Ringgit (MYR) in relation to the selected ASEAN currencies are presented in this section.

Table 2: Pre COVID-19 Pandemic

Country	ADF Statistic at Level	ADF Statistic at First Difference)	Interpretation
MYR/BND	−0.732	−7.543***	Non-stationary at level, stationary after differencing
MYR/IDR	−2.559	−4.954***	Non-stationary at level, stationary after differencing

MYR/PHP	−2.190	−7.592***	Non-stationary at level, stationary after differencing
MYR/SGD	−0.719	−7.529***	Non-stationary at level, stationary after differencing
MYR/THB	−0.416	−14.255***	Non-stationary at level, stationary after differencing

Note: ***,**,* represents statistical significance at 1%, 5%, and 10* level, respectively.

During the pre-pandemic era in Table 2, all bilateral exchange rate series between the Malaysian Ringgit and the selected ASEAN currencies were non-stationary at level but became stationary after first differencing. According to the results of the ADF test, all series are integrated of order one, or I(1), which is in line with the properties of a random walk process.

By suggesting that historical data incorporated into exchange rate movements could not be used to predict future changes in the bilateral exchange rates, this finding lends credence to the weak-form EMH. The findings are consistent with those of Lee et al. (2011), who discovered comparable proof of weak-form efficiency in the foreign exchange markets of the ASEAN-5 in relation to the USD. It also supports the theoretical claim made by Fama (1970, 1991) that market prices efficiently take historical information into account.

The ASEAN Free Trade Area (AFTA), which is defined by growing intraregional trade and gradual financial liberalization, has stable and effective exchange rate mechanisms, as evidenced by the overall preCOVID-19 results. The long-term efficiency indicates that information distribution across ASEAN foreign exchange markets was successful and in line with reasonable market expectations, notwithstanding variations in exchange rate regimes, such as Singapore's managed float and Malaysia's managed flexibility.

Table 3: During COVID-19 Pandemic

Country	ADF Statistic at Level	ADF Statistic at First Difference)	Interpretation
MYR/BND	−1.388	−2.582*	Non-stationary at both levels
MYR/IDR	−0.882	−5.456***	Non-stationary at level, stationary after differencing
MYR/PHP	−0.907	−1.862	Non-stationary at both levels
MYR/SGD	−3.031**	−5.920***	Stationary at level, weak evidence of mean reversion
MYR/THB	−2.051	−2.335	Non-stationary at both levels

Note: ***,**,* represents statistical significance at 1%, 5%, and 10* level, respectively.

Table 3 illustrates the brief departure from market efficiency during the COVID-19 pandemic, which is characterized by increased volatility and asymmetric behavior across currencies. Other bilateral rates, such as MYR/BND, MYR/PHP, and MYR/THB, displayed non-stationarity at both levels, indicating a breakdown in informational efficiency, while the MYR/IDR and MYR/SGD exchange rates remained stationary following differencing and even stationary at level in Singapore's case.

This outcome is a reflection of the severe liquidity shocks and economic uncertainty that hampered regular trading patterns in ASEAN financial markets throughout the pandemic. The decreased efficiency in these currencies is in line with the findings of Azzam et al. (2023), who noted that during COVID-19, the foreign exchange market efficiency of 26 developed and emerging markets declined as a result of increased volatility and abrupt changes

in risk sentiment. In a similar vein, Kumar and Pathak (2025) discovered that the pandemic undermined cryptocurrency markets' cyclical patterns, highlighting the way that worldwide shocks can skew typical price adjustment mechanisms.

Rather than being economic, the MYR/SGD and MYR/BND pairs' observed divergence is primarily technical. Both currencies move in tandem in real terms because of the Brunei and Singapore Currency Interchangeability Agreement. Small variations in trading volumes and reporting sources, however, could result in small statistical differences without actually decoupling from parity. The overall trend indicates that, in the face of unprecedented uncertainty and inconsistent policy responses, some bilateral markets temporarily lost informational efficiency while others maintained it.

Table 4: Post-COVID-19 Pandemic

Country	ADF Statistic at Level	ADF Statistic at First Difference)	Interpretation
MYR/BND	−1.023	−2.994**	Non-stationary at level, stationary after differencing
MYR/IDR	−2.165	−5.193***	Non-stationary at level, stationary after differencing
MYR/PHP	−2.808*	−1.261	Non-stationary at both levels
MYR/SGD	−0.854	−3.183**	Non-stationary at level, stationary after differencing
MYR/THB	−2.936**	−3.727***	Stationary at level, weak mean reversion

Note: ***,**,* represents statistical significance at 1%, 5%, and 10* level, respectively.

Efficiency in ASEAN bilateral markets seems to have somewhat recovered in the post-pandemic era. The exchange rates MYR/IDR, MYR/SGD, and MYR/THB all returned to I(1) patterns, as shown in Table 4, indicating a return to random walk dynamics that is in line with the weak-form EMH. Specifically, the MYR/THB rate indicated a slight realignment following the 2020–2021 turbulence, with weak evidence of mean reversion as indicated by the stationarity at level I(0).

In contrast, MYR/PHP and MYR/BND remained non-stationary at level but stationary following initial differencing, suggesting that efficiency was mostly restored but still a little less stable than it was prior to the pandemic. The reopening of borders, inflation stabilization, and financial confidence recovery have all contributed to the gradual normalization of trade, capital flows, and policy coordination within ASEAN, which is reflected in these findings. The overall return to efficiency is consistent with the findings of Putra et al. (2016), who highlighted the ASEAN foreign exchange markets' ability to bounce back from previous global shocks like the 2008 financial crisis.

CONCLUSIONS

The empirical analysis employing the Augmented Dickey-Fuller (ADF) unit root tests unequivocally shows that, especially over an extended period of time, the bilateral exchange rates of the Malaysian Ringgit (MYR) against the selected ASEAN currencies, Indonesia (IDR), the Philippines (PHP), Singapore (SGD), Thailand (THB), and Brunei (BND), generally follow a random walk process. According to Fama's (1970, 1991) weak-form Efficient Market Hypothesis (EMH), all series were found to be non-stationary at level but stationary after first differencing. This finding implies that exchange rate changes are unpredictable and that past movements do not

contain information that could generate abnormal profits. The outcome is a reflection of the ASEAN currency markets' increasing informational efficiency and integration, which are supported by trade liberalization, better policy coordination, and financial market technology advancement.

In line with the disruptions documented by Azzam et al. (2023) and Kumar and Pathak (2025), the study also reveals that market efficiency momentarily declined during the COVID-19 pandemic (2020–2021). Throughout the crisis, there was consistent non-stationarity in the bilateral exchange rates between the Philippines, Brunei, and Thailand, which may indicate higher uncertainty and delayed information transmission. Malaysia's exchange rate with Singapore and Indonesia, on the other hand, showed a faster return to efficiency, suggesting more robust policy frameworks and robust market mechanisms. As evidenced by the partial recovery seen in the post-COVID-19 period (2022–2023), the normalization of trade flows and macroeconomic policies appears to have helped ASEAN foreign exchange markets regain stability and resume effective informationgathering.

From a policy perspective, the results highlight how crucial it is for monetary and exchange rate policies in ASEAN member states to be transparent, consistent, and well-coordinated. Policymakers should strengthen macroeconomic surveillance systems, improve exchange rate reporting, and enhance central bank communication strategies to ensure the rapid and reliable dissemination of information. Greater policy clarity reduces speculative pressures and promotes confidence in regional currency markets. At the institutional level, Malaysia and its ASEAN partners should deepen regional cooperation through platforms such as the ASEAN+3 Macroeconomic Research Office (AMRO) and the Chiang Mai Initiative Multilateralization (CMIM). Expanding these mechanisms with enhanced cross-border liquidity support, macro-prudential monitoring, and crisis-management tools would help preserve exchange rate stability during external shocks and strengthen the regional financial safety net.

Beyond policy coordination, ASEAN member states should collectively focus on broadening and integrating their financial markets. This includes encouraging wider participation in forward, futures, and swap markets, expanding access to currency-hedging instruments, and developing interoperable digital trading and settlement infrastructures. Deepening market liquidity and accessibility would reduce exchange rate volatility and improve firms' ability to manage currency risk in cross-border transactions. At the same time, regional authorities should advance local currency settlement (LCS) initiatives and explore the creation of a regional digital currency settlement system to gradually lessen dependence on the U.S. dollar. These initiatives, supported by digital payment technologies and regulatory harmonization, would promote more efficient intra-ASEAN trade and investment flows while enhancing financial autonomy. Taken together, these policy and market-level reforms would not only improve exchange rate efficiency but also build a more resilient, interconnected, and self-sustaining regional monetary architecture for the post-pandemic era.

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