

Article

A Quantitative Analysis of Factors Affecting RMB Internationalisation in Southeast Asia

Li Jun* & Chin Kok Fay

Research Center for History, Politics & International Affairs, Faculty of Social Sciences and Humanities,
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

*Corresponding Author: p112405@siswa.ukm.edu.my

Received: 27 September 2025

Accepted: 13 November 2025

Abstract: As the 20th National Congress of the Chinese Communist Party Report calls for promoting RMB internationalisation in an orderly manner, it has to confront significant geopolitical and geoeconomic risks. Given its strategic ties, ASEAN serves as a key region for RMB internationalisation. Existing studies mainly focus on currency linkages and clearing infrastructure, while comprehensive quantitative research on the determinants of RMB internationalisation in Southeast Asian countries remains limited. To address this gap, this study constructs the ASEAN RMB Internationalisation Index (ARII) to examine factors influencing its progress from 2011 to 2023. The research findings reveal that China's exports to ASEAN countries did not contribute to RMB internationalisation, as a substantial share of trade transactions continues to be settled in U.S. dollars. By contrast, ASEAN's portfolio investment, equity positions, and debt instruments in China have significantly facilitated RMB internationalisation through deeper financial integration. Moreover, the process of RMB internationalisation within ASEAN displays a pronounced path dependence, reflecting the cumulative effects of prior RMB usage and institutional expansion. The findings highlight China's effort to balance financial control, currency policy, and capital market liberalisation while maintaining domestic stability and expanding international influence, shaping a distinctive state-guided pathway of RMB internationalisation. Policy implications suggest that sustained cooperation with regional financial centres particularly Singapore, the deepening of settlement infrastructure, cautious enhancement of RMB asset liquidity, and continued engagement and interoperability with the U.S. dollar system are crucial to advancing the RMB's international role in Southeast Asia and forging a pathway of internationalisation.

Keywords: China; Southeast Asian countries; RMB internationalisation; currency policy; capital market liberalisation

Introduction

Research on the RMB internationalisation in its early years mostly concentrated on its motivation, functions, and processes (Bowles & Wang, 2013; Cui, 2013; Park, 2010; Park & Song, 2011). Following the development of RMB internationalisation, academic research has turned its attention to the main obstacles, effects and impacts involved. According to Fulcher (2023), RMB internationalisation faces a series of structural and geopolitical challenges, including capital account controls, exchange rate management constraints, mounting domestic debt concerns, and external political frictions. Despite these obstacles, he suggests that greater international use of the RMB could bring transformative effects to global trade and finance, promoting efficiency gains, modifying trade and investment flows, and gradually reshaping the composition of global reserves and exchange rate dynamics. Balmas and Howarth (2024) contend that the

limited number of investment channels is a significant obstacle to RMB internationalisation. Although China has granted foreign investors limited access, the absence of deeper structural reforms means that agency mechanisms are particularly important at this stage. All of this shows that academic comprehension of RMB internationalisation is expanding, and that this topic requires additional research and discussion.

On the other hand, RMB internationalisation has progressed unevenly across regions. Perez-Saiz and Zhang (2023) found significant regional variations in the use of the RMB for cross-border payments. These differences can be partly explained by a country's geographic and political distance from China, as well as its trade linkages with the country. However, they also reflect the impact of policy measures introduced by the People's Bank of China, such as the establishment of bilateral swap lines and offshore clearing banks. The geographical and political distance of Southeast Asian countries, as well as their trade relations, have made them a key starting point for RMB internationalisation. Based on quantitative analysis, this study examines RMB internationalisation in Southeast Asian economies. The paper estimates ASEAN RMB Internationalisation Index (2011–2023) and identifies key drivers, including China–ASEAN trade, investment, portfolio flow, equity positions, debt instrument, and institutional mechanisms and financial agreements. The results provide a foundation for future research and enable clearer, more persuasive examination of the relationships among these variables.

Literature Review

Recent research on RMB internationalisation can broadly be classified into two strands, focusing on the factors that either hinder or facilitate its progress. In terms of constraints, RMB internationalisation continues to face a range of structural and geopolitical constraints, including capital account restrictions, exchange rate management mechanisms, rising domestic debt pressures, and external political frictions (Fulcher, 2023).

Regarding facilitating factors, these can be broadly categorised into several dimensions, including trade, foreign direct investment (FDI), portfolio and financial assets, institutional mechanisms, and financial infrastructure. In the trade dimension, Von Beschwitz (2024) notes that a combination of geopolitical and macroeconomic developments has significantly boosted the RMB's use in cross-border trade, the RMB internationalisation Report (PBC, 2023) similarly highlights that trade settlement plays a central role in promoting RMB internationalisation. In addition, the RMB globalisation index shows steady growth in offshore RMB usage, driven primarily by its deployment in trade settlement and direct investment, underscoring trade's central role in advancing RMB internationalisation (Mami, 2023).

With respect to FDI, China's strategy for RMB internationalisation of capital inflows through selective access to its bond market has promoted the international use of the RMB while containing risks from volatile capital movement (Clayton et al., 2025). In the area of portfolio and financial assets, the Peoples's Bank of China (PBC) (2023) aims to further develop the Panda bond market and optimise the policy environment for cross-border RMB investment and financing, thereby facilitating RMB internationalisation. Likewise, Balmas & Howarth (2024) argue that inward investment—facilitated through state-designed channels for foreign investor—has become a principal driver of RMB internationalisation by expanding the currency's role as an investment and financing medium.

Institutional mechanisms and financial agreements also play an essential role. Perez-Saiz and Zhang (2023) emphasise that institutional arrangements and offshore financial infrastructures such as bilateral currency swap lines and offshore clearing banks have played a critical role in facilitating RMB use in cross-border transactions. Similarly, Fulcher (2023) highlights that institutional mechanisms such as bilateral currency swap agreements have been central to promoting RMB internationalisation by facilitating trade and investment while reducing dependence on the U.S. dollar. In a related argument, Taylor (2025) stresses that China's RMB internationalisation strategy is deeply embedded in geopolitical and institutional frameworks, relying on financial agreements such as currency swap lines and clearing systems like the Cross-Border Interbank Payment System (CIPS) to extend the RMB's global reach and reduce exposure to dollar weaponisation. Finally, Wang and Qian (2024) highlight that broader institutional cooperation agreements, including the Regional Comprehensive Economic Partnership (RCEP) and the Belt and Road Initiative (BRI), play an important role in facilitating RMB internationalisation by strengthening regional trade and financial linkage.

As China's influence in Southeast Asia continues to expand (Gurunathan & Moorthy, 2021), it has progressively extended from the economic sphere into the financial and monetary domains, thereby contributing to regional economic development (Hamzah et al., 2019). Although academic research on RMB internationalisation in Southeast Asia remains limited, existing studies and policy reports consistently identify the region as the strategic starting point and key platform for expanding the RMB's cross-border use (He et al., 2023a; PBC, 2023; Taylor, 2025). Existing studies on RMB internationalisation in Southeast Asia remain fragmented, focusing mainly on currency linkage (He et al., 2023b) and clearing infrastructure (Taylor, 2025), while lacking a comprehensive analysis of factors affecting RMB internationalisation in the region.

To address this gap, this study employs a direct and data-driven measure of RMB usage—the ASEAN RMB Internationalisation Index (ARII)—to provide a more comprehensive and empirical assessment of the RMB's actual utilisation across the region. This empirical approach offers a clearer picture of China's economic engagement with Southeast Asian countries and its linkage to the process of RMB internationalisation. By identifying the factors that affect the RMB's regional adoption, this study further seeks to elucidate the key determinants of RMB internationalisation and its distinctive pathway in Southeast Asian countries.

Theoretical Framework

Angrick (2018) argues that currency internationalisation is a process underpinned by economic structural change, political mediation, and accommodative balance of payments management, firmly placing the issue within the realm of multilevel analysis. Based on this theoretical framework, this article constructs a theoretical framework for the factors affecting RMB internationalisation (see Figure 1).

Many variables are difficult to measure in practice, such as the relations between China and ASEAN countries in a given year, an ASEAN country's political considerations regarding the usage of a specific foreign currency, and so on. However, data on trade, investment, portfolio investments, equity positions, and debt instruments between China and ASEAN countries, ASEAN countries' financial levels are available, and these elements will be highlighted in the quantitative research.

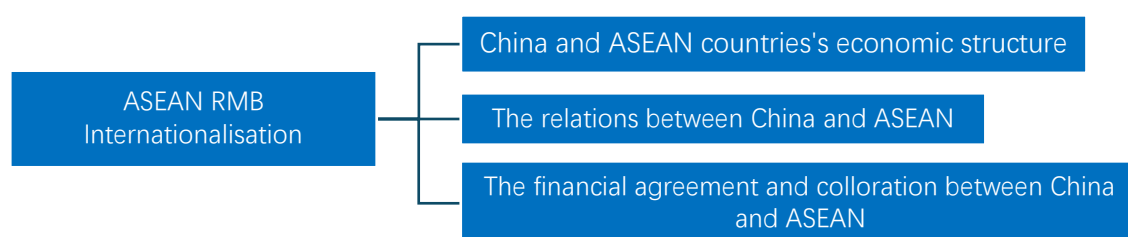


Figure 1. Theoretical framework

Source: Angrick (2018) and compiled by the author (2025)

Methodology

1. Sources of Data

This article is inspired by the RMB Internationalisation Index Model of International Monetary Institute (IMI) to evaluate the ASEAN RMB Internationalisation Index (Wang & Qian, 2024, pp 220). Because of the limit of data on ASEAN RMB internationalisation, the scope extends from 2011 to 2023. ASEAN RMB Internationalisation Index is based on the three functions of currency, including a measure of value, a means of payment and a store of value (Wang & Qian, 2024, pp 216).

Each indicator in RII is a proportion on its own, with no change in magnitude. There is no need for dimensionless processing. It can directly do weighted averaging and compile RII, that is,

$$RII_t = \frac{\sum_{j=1}^5 X_{jt} W_j}{\sum_{j=1}^5 W_j} \times 100$$

Among them, RII_t represents RMB internationalisation index in the t -th period, X_{jt} represents the value of the j -th variable in the t -th period, and W_j represents the j -th variable's weight. Regarding ARII, each indicator in ARII is a proportion on its own, with no change in magnitude (see Figure 2). Therefore, there is no need for dimensionless processing. It can directly do compile ARII, that is,

$$ARII_t = \frac{RMB \text{ current account balance}_t + RMB \text{ capital account balance}_t}{ASEAN \text{ trade in goods and services}_j + ASEAN \text{ FDI}_t + ASEAN \text{ portfolio investment}_t} \times 100$$

Among them, $ARII_t$ represents ASEAN RMB internationalisation index in the t -th period, RMB current account balance _{t} represents the value of RMB current account balance in ASEAN countries in the t -th period, RMB capital account balance _{t} represents the value of RMB capital account balance in ASEAN countries in the t -th period, ASEAN trade in goods and services _{j} represents the value of the trade in goods and services between ASEAN and the global countries in the t -th period, ASEAN FDI _{t} represents the value of inward an outward FDI between ASEAN and the global countries, ASEAN portfolio investment _{t} represents the portfolio investment, equity, positions, debt securities between ASEAN and global countries.

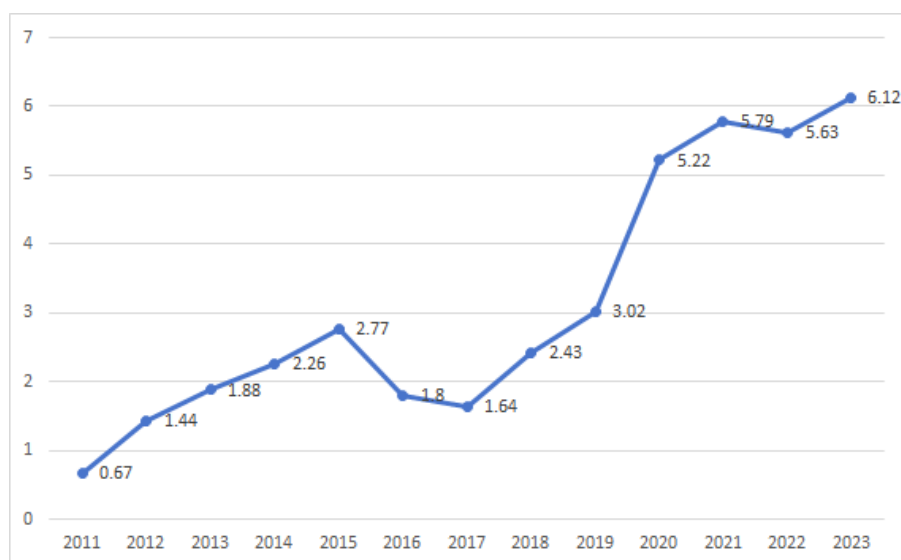


Figure 2. ASEAN RMB Internationalisation Index (2011-2023)
Source: Compiled by the author (2025)

ASEAN countries' inclusion of the RMB in foreign exchange (FX) reserves because the exact numbers could not be obtained. However, the following table summarizes the specific events (see Table 1).

Table 1. ASEAN countries' inclusion of the RMB in foreign exchange reserves

Year	RII	Specific events
2006	Philippines	Effective December 1, 2006, the Bangkok Sentral ng Philippines (BSP) Monetary Board approved the RMB as its convertible currency. The BSP adopted the RMB as a Philippine FX reserve currency in 2016.
2009	Malaysia	The Bank Negara Malaysia (BNM) bought RMB-denominated bonds as FX reserves. BNM FX reserves have included RMB-denominated assets since 2009.
2011	Thailand	The RMB was incorporated into the reserves of the Bank of Thailand (BOT).

2012	Indonesia	Bank Indonesia (BI) purchased RMB-denominated bonds issued in China, and incorporated RMB-denominated assets into its FX reserves.
2015	Cambodia	Before 2012, the RMB was included in the FX reserves of the Nation Bank of Cambodia (NBC).
2016	Singapore	The Monetary Authority of Singapore (MAS) has declared that the RMB financial investment will be incorporated into its official FX reserves.

Source: 2024 Report on use of RMB in ASEAN countries and compiled by the author (2025)

The article evaluates the ARII of each country as a result of the ARII. According to Angrick's (2018) theory, currency internationalisation is a process driven by economic structural change, political mediation, and accommodative balance of payments management.

$$EARII_{i,t} = ARII_{i,t} * (0.2 * TRADE_{i,t} + 0.2 * FDI_{i,t} + 0.2 * Portfolio_{i,t} + 0.2 * \left(\frac{M2}{GDP}\right)_{i,t} + 0.2 * Agreement_{i,t}) \times 100$$

Among them, $EARII_{i,t}$ represents EARII of each ASEAN country i in the t -th period, $TRADE_{i,t}$ represents the value of the trade of each ASEAN country i with China in the t -th period; $FDI_{i,t}$ represents the value of the capital account balance each ASEAN country i with China in the t -th period; $Portfolio_{i,t}$ represents the value of the portfolio investment, equity, positions, debt securities of each ASEAN country i with China in the t -th period, $(M2/GDP)_{i,t}$ represents the financial level of each ASEAN country; $Agreement_{i,t}$ represents the collaboration between each of ASEAN country i with China in the t -th period.

It is important to mention that the numerical value of the result of need be count normalized. ASEAN RMB Internationalisation Index (EARII) is derived by scaling ARII with a weighted sum of five components (each weighted 20%), then multiplied by 100. The article utilizes the IMF's official exchange rate to convert the value of China's balance of payments (current account & capital and financial accounts) to RMB currency. Since there is a lack of data on RMB as foreign exchange reserves in ASEAN countries, the article excludes data on the foreign reserves RMB internationalisation in ASEAN countries (see Table 1).

2. Hypothesis

Building on its existing trajectory, the Chinese government continues to deepen and expand the process of RMB internationalisation. It does so by signing bilateral agreements to promote RMB use in trade and investment, establishing RMB swap lines, developing a dedicated RMB clearing bank network, and enhancing CIPS (Von Beschwitz, 2024). This ongoing institutional expansion suggests a degree of path dependence. ASEAN RMB internationalisation is primarily market-driven (Xu, 2023). It not only reduces exchange rate risks and transaction costs in cross-border trade, investment and financial activities (Cohen, 2012), but also lessens dependence on foreign currencies such as the U.S. dollar (Chey et al., 2019). As the RMB increasingly serves as a medium of exchange and a vehicle currency, trade and financial interactions between China and ASEAN—including current account transactions, capital and financial account flows—exert a positive influence on RMB internationalisation in the region (Wang & Qian, 2024). In other words, trade, FDI, portfolio investment, equity positions, and debt securities between China and Southeast Asian countries collectively promote the use and circulation of the RMB in the region. On the other hand, economic size and the level of financial market development are crucial determinants of currency internationalisation (Cui et al., 2024). Following Calderon and Liu (2023), financial development is commonly measured by the ratio of broad money supply (M2) to GDP. A higher M2/GDP ratio reflects a more developed financial sector and great financial intermediation capacity (Calderon & Liu, 2023). Accordingly, higher levels of financial development in Southeast Asian countries are expected to facilitate RMB internationalisation, as a deeper financial system can better accommodate cross-border settlements and liquidity in RMB-denominated transactions.

- i. H1. The total amount of trade between China to ASEAN countries has a positive effect on ASEAN RMB internationalisation
- ii. H2. The total amount of foreign direct investment between China and ASEAN countries has a positive on ASEAN RMB internationalisation

- iii. H3. The total amount of portfolio investment, equity, positions, debt securities between China and ASEAN countries has a positive on ASEAN RMB internationalisation
- iv. H4. The ASEAN's Finance level has a positive effect on ASEAN RMB internationalisation

The main model draws inspiration from literature reviews and *2019-2024 Report on Use of RMB in ASEAN Countries*.

$$EARII_{i,t} = \alpha + \varphi_1 EARII_{i,t-1} + \varphi_2 Export_{i,t} + \varphi_3 Import_{i,t} + \varphi_4 OFDI_{i,t} + \varphi_5 IFDI_{i,t} + \varphi_6 OPI_{i,t} + \varphi_7 IPI_{i,t} + \varphi_8 Finance_{i,t} + \varepsilon_t$$

Where $t = 1, 2, 3 \dots T$

$i = 1, 2, 3 \dots I$

$EARII_{i,t}$ = each ASEAN country i in the t period

$EARII_{i,t-1}$ = each ASEAN country i at the $t-1$ period

$Export_{i,t}$ = the export of China with each ASEAN country i at the t period

$Import_{i,t}$ = the import of China with each ASEAN country i at the t period

$OFDI_{i,t}$ = the outward FDI of China to each ASEAN country i at the t period

$IFDI_{i,t}$ = the inward FDI of China from each ASEAN country i at the t period

$OPI_{i,t}$ = the portfolio investment, equity, positions, debt securities of China to each ASEAN country i at the t period

$IPI_{i,t}$ = the portfolio investment, equity, positions, debt securities of China from each ASEAN country i at the t period

$Finance_{i,t}$ = the financial level (M2/GDP) of each ASEAN country i at the t period

α = constant

φ = parameters of the MA model,

ε_t = error term at the t period

Initially, the most critical issue is the evaluation of $EARII$. This article evaluates the $EARII$ by drawing on the evaluation of RII from IMI, Renmin University of China. Initially, the values of $OFDI$, $IFDI$, OPI , and IPI are negative and zero. Consequently, this article utilizes the inverse hyperbolic sine to address them.

$$ihs(x) = \text{asinh}(x) = \ln(x + \sqrt{x^2 + 1})$$

When $|x|$ is large, $ihs(x) \approx \text{sign}(x) * \ln(2|x|)$; when $|x|$ is small, $ihs(x) \approx x$

On the other hand, the article rectified the magnitude to enhance the significance of the pertinent regressions, as $EARII$ is exceedingly small and the values of $Export$, $Import$, $OFDI$, $IFDI$, OPI , and IPI are exceedingly substantial. Lastly, this article relies on this data to provide an explanation of the pertinent models.

$$EARII_pct = EARII * 100$$

Where $EARII_pct$ is ASEAN RMB Internationalisation Index Percentage

Furthermore, the article employs the natural logarithm function in $Export$ and $Import$ to elucidate the relationship with $EARII$, as the value of $Export$ and $Import$ is exceedingly substantial.

The Findings

First, to confirm whether the panel data is stationary, the article conducted a unit root test. Based on augmented Dickey-Fuller tests, Fisher-type unit-root test for EARII, \ln_Export , \ln_Import , ihs_OFDI , ihs_IFDI , ihs_OPI , ihs_IPI , Finance. The results show that all EARII and its determinants are non-stationary, except \ln_Import and ihs_OFDI , with EARII's $Z(p\text{-value}=0.9978>0.05)$, \ln_Export 's $Z(p\text{-value}=0.8084>0.05)$, $IFDI$'s $Z(p\text{-value}=0.7412>0.05)$, OPI 's $Z(p\text{-value}=0.7961>0.05)$, Finance's $Z(p\text{-value}=0.1342>0.05)$, while \ln_Import 's $Z(p\text{-value}=0.0049<0.05)$ and ihs_OFDI 's $Z(p\text{-value}=0.0184<0.05)$ (see Table 2). It is impossible to choose a cointegration test and error correction model because the unit roots of EARII and its influencing factors are stationarity or non-stationarity. The relations between EARII and its influencing factors is analysed in this article using the Generalized Method of Moments (GMM) (see Table 2).

Table 2. Fisher-type panel unit root test results (dependent and independent variables)

Variable	Inverse chi-squared (P)	P-value	Modified inv. chi-squared (Pm)	P-value	Conclusion
EARII_pct	6.5856	0.9978	-2.1210	0.9830	Non-stationary
\ln_Export	14.4234	0.8084	-0.8817	0.8110	Non-stationary
\ln_Import	40.0732	0.0049**	3.1739	0.0008***	Stationary
ihs_OFDI	35.3259	0.0184*	2.4232	0.0077**	Stationary
ihs_IFDI	15.5987	0.7412	-0.6959	0.7568	Non-stationary
ihs_OPI	14.6488	0.7961	-0.8461	0.8013	Non-stationary
ihs_IPI	27.8852	0.1121	1.2468	0.1062	Non-stationary
Finance	27.0375	0.1342	1.1127	0.1329	Non-stationary

- Notes. 1. Null hypothesis H0: All panels contain unit roots; Alternative hypothesis H1: At least one panel is stationary
 2. Sample consists of 10 panels with 13 time periods
 3. * $P<0.05$, ** $p<0.01$, *** $p<0.001$
 4. Conclusion is based on the significance of test statistics: rejection of H0 at 5% level indicates stationary

This study uses the two-step system generalized moments (Two-step System GMM) estimation method to analyse the key factors affecting the ASEAN RMB internationalisation index (EARII_pct). Table 3 shows the dynamic panel GMM estimation results.

Table 3. Dynamic panel-data estimation, two-step system GMM

Variable	Coefficient	Standard Error	Z Value	P Value
L1.EARII_pct	1.0827***	0.0234	0.32	0.000
\ln_Export	-3.2990**	1.6359	-2.02	0.044
\ln_Import	0.8795	1.6846	0.52	0.602
ihs_OFDI	0.3630	0.2269	1.60	0.110
ihs_IFDI	0.1439	0.6487	0.22	0.824
ihs_OPI	0.4164	0.3901	1.07	0.286
ihs_IPI	0.6615**	0.3232	2.05	0.041
Finance	-0.0119	0.0296	-0.40	0.689
constant	17.0061	10.7069	1.59	0.112

Notes. * $P<0.05$, ** $p<0.01$, *** $p<0.001$; Number of observations=120; Number of countries=10; Wald $X^2(8) = 501615.93$; Prob> $X^2=0.000$; Number of instrumental variables=10

The article chosen GMM model, the function can be estimated following:

$$EARII_pct_{i,t} = 1.0827 \text{ } EARII_pct_{i,t-1} - 3.2990 \ln(Export_{i,t}) + 0.6615 \text{ } ihs(IPI_{i,t}) + \varepsilon_t$$

Table 3 shows the estimation results obtained utilizing the two-step system GMM method. The dependent variable is the scaled ASEAN RMB Internationalisation Index (EARII_pct), which is the original EARII multiplied by 100. The coefficient of the lagged dependent variable (EARII_pct) is significantly positive at the 1% level (coefficient=1.0827, $p=0.000<0.01$), indicating a high path dependence in RMB internationalisation across ASEAN countries. This finding implies that previous levels of RMB use strongly predict future pattern, consistent with the persistence and momentum effects identified in the literature on currency internationalisation. The coefficient of $\ln(\text{Export})$ is negative at the 5% level (coefficient=-3.2990, $p=0.044<0.05$), indicating that China's higher exports to ASEAN countries are linked to a reduction in the use of RMB. This result may reflect the U.S. dollar's dominance in trade invoicing or ASEAN partners' unwillingness to settle shipments in RMB. Among investment variables, the coefficient of $\ln(\text{IPI})$ is positive at the 5% level (coefficient=0.6615, $p=0.041<0.05$). It demonstrates that increased financial interaction between ASEAN and China via capital markets promotes RMB internationalisation. Import, OFDI, IFDI, OPI, and Finance have no significant effects. Overall, these findings emphasize the importance of prior RMB adoption levels and capital market ties (particularly inward portfolio flows) in driving RMB internationalisation in ASEAN.

The Wald chi-square statistic ($X^2=501615.93$, $p=0.0000<0.001$) indicates that the model is jointly significant, suggesting that the selected explanatory variables provide substantial explanatory power for RMB internationalisation in ASEAN. The Hansen over-identification test ($X^2=1.87$, $p=0.172$) fails to reject the null hypothesis of instrument validity, confirming that the instruments satisfy the exogeneity requirement. Arellano-Bond tests for first- and second-order serial correlation yield ($p=0.183$ and $p=0.221$), respectively, indicating no significant residual autocorrelation. The number of instruments (10) is maintained at a low level, thereby avoiding the instrument proliferation that can weaken the Hansen test and enhancing the credibility of the estimation results.

Discussion

Contrary to a priori expectation as stated in the first hypothesis, the result reveals that China's export growth to ASEAN countries is associated with a decline in the use of the RMB. This counterintuitive outcome is consistent with findings reported in several previous studies. This unexpected relationship reflects the entrenched dominance of the U.S. dollar in regional trade invoicing (Boz et al., 2022; McGuire et al., 2024). Despite the RMB's growing influence, studies consistently find that the U.S. dollar remains the primary anchor currency in East and Southeast Asia (He et al., 2023b). The RMB's role is still limited and concentrated in a few economies such as Singapore, Malaysia, and Thailand, underscoring the structural inertia that sustains dollar-based trade practices. Some earlier studies, such as Falianty (2019), argue that stronger ASEAN-China trade integration promotes RMB use. However, the research relied on limited data and indirect indicators. By contrast, this study covers all ASEAN members and employs a direct empirical measure of RMB use, providing a broader and more robust assessment. Overall, this finding suggests that trade growth alone does not expand RMB use. Without adequate infrastructure, policy alignment, and regional invoicing shifts, the U.S. dollar remains dominant. Thus, financial and institutional factors, not trade volume, drive RMB internationalisation in the region.

With respect to Hypothesis Three, the finding reveals a significant and positive relationship, aligning with the earlier studies. Specifically, ASEAN portfolio investment, equity, positions, and debt securities in China contribute positively to the advancement of RMB internationalisation. This result resonates with findings from earlier research, which similarly emphasised the role of cross-border capital linkages in advancing currency internationalisation. Market participants in Southeast Asia are increasingly investing in RMB-denominated assets (Ying, 2024). To further internationalise the RMB, its role should extend beyond settlement and investment to include reserve holdings among emerging central banks (Bank of China, 2024; Radosevic, 2024). However, China's capital controls and exchange rate management still limit full convertibility, and the legal framework for RMB payments and investment remains uncertain (Amighini & Garcia-Herrero, 2023). Although offshore RMB can re-enter onshore markets through regulated schemes, these channels remain narrow and illiquid, reflecting China's cautious liberalisation strategy aimed at balancing openness with financial stability.

In relation to Hypotheses Two and Four, the results show no statistically significant effects, implying that neither bilateral FDI between China and ASEAN countries nor ASEAN's financial development level contributes meaningfully to RMB internationalisation. This contrasts with earlier studies (Cui et al., 2024; Wang & Qian, 2024). Unlike largely theoretical work, this study provides empirical evidence on these relationships. Although local currency settlements have risen, transactions remain dominated by the U.S. dollar (AMRO, 2023). Given that most ASEAN countries—except Singapore, Malaysia, and Thailand—have limited financial development, regional financial depth is not a major driver of RMB internationalisation.

Concerning the dependent variable, the analysis reveals a significant association between the previous and current periods of EARI, suggesting that RMB internationalisation exhibits strong path dependence. This finding aligns with existing literature, which generally explains such persistence through two reinforcing mechanisms: market-based continuity and policy-driven intervention. Once the RMB gains traction in trade or reserves, supporting institutions and networks expand, creating a positive feedback loop (Chey et al., 2019; Cohen, 2012; Cohen & Benney, 2014). Building on this path, China continues to promote RMB use through bilateral agreements, swap lines, RMB clearing banks, and CIPS (Von Beschwitz, 2024). Facing growing financial pressures and external demands (Freyman & Heng, 2025; Li & Chin, 2024; Talyor, 2025; Ying, 2024), the government remains committed to advancing RMB internationalisation.

Additionally, the analysis reveals that Singapore consistently occupies the top position in terms of both the scale of FDI between China and ASEAN and portfolio investment, including equity positions and debt securities, based on the original data (IMF DATA, 2025; MOFCOM, 2025; MOFCOM, NBS, SAFE, 2025). In contrast, the use of the RMB in ASEAN's trade remains relatively limited. It is therefore increasingly important to leverage Singapore's role more deeply and systematically. As a key financial hub in Southeast Asia, Singapore is a pivotal platform for China to advance RMB internationalisation in the region, warranting sustained policy attention.

Conclusion

This study contributes to the existing literature by providing a quantitative analysis of RMB internationalisation in ASEAN from 2011–2023. Both China's dual framework of capital controls and exchange rate management and the broader process of RMB internationalisation are ultimately designed to safeguard domestic and international financial security. Within the geopolitical and political-economic context, the Chinese government seeks to strike a dynamic balance between control and openness, stability and influence. This balancing act aims to prevent financial vulnerability at home while advancing the RMB's international role abroad—a process that requires dynamic coordination rather than one-dimensional policy trade-offs. In this context, China is not replicating the liberalisation paths of Western currencies but is instead forging a distinctive trajectory of RMB internationalisation under managed openness.

China's current policy of promoting RMB internationalisation in Southeast Asia should be sustained and further refined through the expansion of settlement infrastructure, including bilateral currency swap lines and offshore clearing banks in Southeast Asian countries. Financial cooperation with Singapore should be continued and deepened, leveraging its role as a regional financial hub to facilitate broader outreach to neighbouring ASEAN countries. The liquidity and investment potential of RMB assets should be gradually and prudently enhanced, with due regard to the balance between domestic financial stability and external liberalisation. Engagement and interoperability with the U.S. dollar system should also be maintained, in order to forge a pathway for RMB internationalisation. Looking ahead, particular attention should be devoted to the development and potential application of digital RMB and stablecoins within ASEAN economics, as these financial innovations may significantly shape the next phase of RMB internationalisation in the region.

Acknowledgments: The authors received no financial support and has no acknowledgement to declare.

Conflict of Interest: The authors declare no conflict of interest.

References

- Amighini, A., & García-Herrero, A. (2023, November 2). Third time lucky? China's push to internationalise the renminbi. *Bruegel*. <https://www.bruegel.org/policy-brief/third-time-lucky-chinas-push-internationalise-renminbi>
- Angrick, S. (2018). Structural conditions for currency internationalisation: international finance and the survival constraint. *Review of International Political Economy*, 25(5), 699–725. <https://doi.org/10.1080/09692290.2018.1472129>
- ASEAN+3 Macroeconomic Research Office (AMRO), (2023). *Expanding Local Currency Transactions in ASEAN+3 Cross-Border Payments*. https://amro-asia.org/wp-content/uploads/2023/12/AMRO-PPP_Expanding-LCT-in-ASEAN3-Cross-Border-Payments_Dec-2023.pdf
- Balmas, P., & Howarth, D. (2024). Chinese currency exceptionalism: The curious internationalisation of the renminbi. *The World Economy*, 47(11), 4436–4462. <https://doi.org/10.1111/twec.13632>
- Bank of China Limited. (2024). *White paper on RMB internationalisation: RMB in multilateral cooperation* [White paper]. Bank of China Limited. <https://pic.bankofchina.com/bocappd/rareport/202506/P020250606660020317918.pdf>
- Bowles, P., & Wang, B. (2013). Renminbi internationalisation: a journey to where? *Development and Change*, 44(6), 1363–1385. <https://doi.org/10.1111/dech.12058>
- Boz, E., Casas, C., Georgiadis, G., Gopinath, G., Le Mezo, H., Mehl, A., & Nguyen, T. (2022). Patterns of invoicing currency in global trade: New evidence. *Journal of International Economics*, 136, 103604.
- Calderón, C., & Liu, L. (2003). The direction of causality between financial development and economic growth. *Journal of Development Economics*, 72(1), 321–334. [https://doi.org/10.1016/S0304-3878\(03\)00079-8](https://doi.org/10.1016/S0304-3878(03)00079-8)
- Chen, W. (2018). Lost in internationalization: rise of the renminbi, macroprudential policy, and global impacts. *Journal of International Economic Law*, 21(1), 31–66.
- Chey, H. K., Kim, G. Y., & Lee, D. H. (2019). Which foreign states support the global use of the Chinese renminbi? The international political economy of currency internationalisation. *The World Economy*, 42(8), 2403–2426. <https://doi.org/10.1111/twec.12794>
- Clayton, C., Dos Santos, A., Maggiori, M., & Schreger, J. (2025). Internationalizing like china. *American Economic Review*, 115(3), 864–902.
- Cohen, B. J. (2012). The benefits and costs of an international currency: Getting the calculus right. *Open Economies Review*, 23, 13–31. <https://doi.org/10.1007/s11079-011-9216-2>
- Cohen, B. J., & Benney, T.M. (2014). What does the international currency system really look like? *Review of International Political Economy*, 21(5), 1017–1041.
- Cui, Y. (2013). The internationalisation of the RMB: where does the RMB currently stand in the process of internationalisation. *Asian-Pacific Economic Literature*, 27(2), 68–85. <https://doi.org/10.1111/apel.12045>
- Cui, Y., Liu, L., & Peng, K. (2024). International competitiveness and currency internationalisation: an application to RMB internationalisation. *Journal of the Asia Pacific Economy*, 29(2), 588–611. <https://doi.org/10.1080/13547860.2022.2031521>
- Falianty, T. (2019). Renminbi in ASEAN Economy: How ASEAN responds to Renminbi Internationalisation. *Journal of Economic Cooperation and Development*, 40, 3 (2019), 1–24.
- Freymann, E., & Heng, C. (2025). The logic of partial RMB internationalization: PRC perspectives on 'financial war'. *The China Quarterly*, 1–16. <https://doi.org/10.1017/S0305741025000037>
- Fulcher, J. (2023). *The RMB's Delicate Dance: Exploring the Complexities and Constraints of the Chinese Yuan on the Global Stage*. Middlebury Institute of International Studies. https://www.middlebury.edu/institute/sites/default/files/202307/WP-%20The%20RMBs%20Delicate%20Dance-%20Justin%20Fulcher_0.pdf
- Gurunathan, A., & Moorthy, R. (2021). China and the Indo-Pacific in India-ASEAN Ties: Prospects for ASEAN. *e-Bangi: Journal of Social Sciences and Humanities*, 18(9).
- Hamzah, M. S., Abdullah, H., & Abdul Hamid, M. S. (2019). Economic Growth, Financial Development, and Institutions: a Review of the Literature. *e-Bangi: Journal of Social Sciences and Humanities*, 16(8).

- He, Q., Liu, J., & Yu, J. (2023a). Dancing with dragon: The RMB and developing economies' currencies. *Research in International Business and Finance*, 64, 101835. <https://doi.org/10.1016/j.ribaf.2022.101835>
- He, Q., Wang, W., & Yu, J. (2023b). Exchange rate co-movements and corporate foreign exchange exposures: a study on RMB. *International Review of Financial Analysis*, 90, 102831. <https://doi.org/10.1016/j.irfa.2023.102831>
- International Monetary Fund (IMF). (2025). *Portfolio Investment Positions by Counterpart Economy (formerly CPIS)*. [https://data.imf.org/en/Data-Explorer?datasetUrn=IMF.STA:PIP\(4.0.0\)](https://data.imf.org/en/Data-Explorer?datasetUrn=IMF.STA:PIP(4.0.0))
- Liang, Y. (2020). RMB internationalisation and financing belt-road initiative: An MMT perspective. *The Chinese Economy*, 53(4), 317–328. <https://doi.org/10.1080/10971475.2020.1728478>
- Li, Jun., & Chin, K. F. (2024). China's Financial Statecraft under Xi Jinping Administration in Selected Southeast Asian Countries. *Jebat: Malaysian Journal of History, Politics & Strategy*, 51(1). <https://doi.org/10.17576/jebat.2024.5101.05>
- Mami, E. (2023, October 26). *Renminbi on the road*. ODI Global. <https://odi.org/en/insights/renminbi-on-the-road/>
- McDowell, D. (2019). The (Ineffective) Financial statecraft of China's bilateral swap agreements. *Development and Change*, 50(1), 122–143.
- McGuire, P., von Peter, G., & Zhu, S. (2024). International finance through the lens of BIS statistics: the global reach of currencies. *BIS Quarterly Review*, 1–16.
- Ministry of Commerce of the People's Republic of China (MOFCOM), National Bureau of Statistics (NBS), State Administration of Foreign Exchange (SAFE). (2025). *2024 Niandu Zhongguo Duiwai Zhijie Touzi Tongji Gongbao. (2024 Statistical Bulletin of China's Outward Foreign Direct Investment)*. https://www.mofcom.gov.cn/xwfb/rcxwfb/art/2025/art_f10eb8e1d3234ee4968c893757b4e10c.html
- Ministry of Commerce of the People's Republic of China (MOFCOM). (2025). *Zhongguo Waizi Tongji Gongbao. 2025. (China Foreign Investment Statistical Bulletin)*. https://wzs.mofcom.gov.cn/ztxx/art/2025/art_75b7a9b76ba744dd8cad3ec0ad51f4f8.html
- Park, Y. C. (2010). RMB internationalisation and its implications for financial and monetary cooperation in East Asia. *China & World Economy*, 18(2), 1–21. <https://doi.org/10.1111/j.1749-124X.2010.01186.x>
- Park, Y. C., & Song, C. Y. (2011). Renminbi internationalisation: prospects and implications for economic integration in East Asia. *Asian Economic Papers*, 10(3), 42–72. https://doi.org/10.1162/ASEP_a_00100
- Perez-Saiz, H., & Zhang, M. L. (2023). *Renminbi usage in cross-border payments: Regional patterns and the role of swaps lines and offshore clearing banks*. International Monetary Fund. <https://www.imf.org/en/Publications/WP/Issues/2023/03/31/Renminbi-Usage-in-Cross-Border-Payments-Regional-Patterns-and-the-Role-of-Swaps-Lines-and-531684>
- Qu, F.J. (2024). Promoting RMB Internationalisation Under the RCEP Framework. In Wang, F., & Qian, Z. *RMB Internationalisation in 2023: Broader and Multi-level Economic and Trade Cooperation*, pp. 105–142. Springer Nature Singapore.
- Radošević, D. (2024). Geopolitical Risks and Unconventional RMB Internationalization: A Reappraisal. In Wang, H. H., & Miao, M. L. *Enhancing Global Governance in a Fragmented World: Prospects, Issues, and the Role of China*, pp. 99–114. Springer Nature Singapore.
- Taylor, M. (2025). Challenging Dollar Dominance? The Geopolitical Dimensions of Renminbi (RMB) Internationalisation. *Journal of Current Chinese Affairs*. <https://doi.org/10.1177/18681026251342258>
- The People's Bank of China (PBC). (2023). *2023 RMB Internationalisation Report*. <http://www.pbc.gov.cn/en/3688241/3688636/3828468/4756463/5163932/2023120819545781941.pdf>
- Tu, Y., & Zhao, X., (2024). RMB Internationalisation Index. In Wang, F., & Qian, Z. *RMB Internationalisation in 2023: Broader and Multi-level Economic and Trade Cooperation*, pp. 1-58. Springer Nature Singapore.
- Von Beschwitz, B. (2024, August 30). *Internationalization of the Chinese renminbi: progress and outlook*. Board of Governors of the Federal Reserve System. <https://www.federalreserve.gov/econres/notes/feds-notes/internationalization-of-the-chinese-renminbi-progress-and-outlook-20240830.html>

- Wang, F. & Qian, Z.X. (2024). *2024 Annual Report of Renminbi Internationalisation. Sustainable global supply chain system and international monetary and financial reform*. Renmin University of China Press.
- Xu, Le. (2023, January 3). *What Does Internationalising Renminbi Means for China and ASEAN?* National University of Singapore. <https://bizbeat.nus.edu.sg/thought-leadership/article/what-does-internationalising-renminbi-means-for-china-and-asean/?form=MG0AV3>
- Ying, J. (2024). *Current Situation and Potential of RMB Use in Southeast Asia and the Role of Hong Kong*, (12). Bank of China (Hong Kong) Limited. [https://www.bochk.com/dam/investment/bocecon/SY2024035\(en\).pdf](https://www.bochk.com/dam/investment/bocecon/SY2024035(en).pdf)
- Zucker-Marques, M. (2025). Currency Internationalisation, payment infrastructures and central banks: An institutional analysis of renminbi internationalisation. *Research in International Business and Finance*, 73, 102571. <https://doi.org/10.1016/j.ribaf.2024.102571>