

External Drivers of Credit Cycles in Cambodia

Natasha Che

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ABSTRACT: This paper investigates the external drivers of Cambodia's credit cycles using a dynamic factor model. Results indicate that common global and regional factors explain over 60 percent of credit growth variance, reflecting one of Asia's highest sensitivities to external conditions. The analysis reveals that external shocks, including US monetary policy, global risk sentiment and China's growth, transmit primarily through a common global credit channel rather than direct bilateral linkages. This high exposure to the global financial cycle highlights the necessity of macroprudential policies to manage domestic volatility in Cambodia's highly dollarized economy.

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Author's E-Mail Address:	NChe@imf.org

SELECTED ISSUES PAPERS

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Cambodia

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CAMBODIA

SELECTED ISSUES

November 5, 2025

Approved By
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Department**

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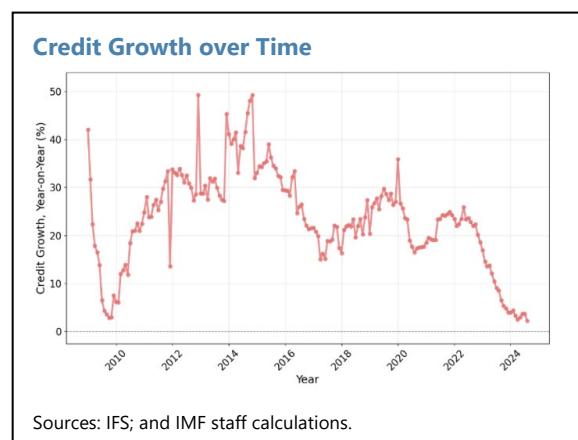
EXTERNAL DRIVERS OF CREDIT CYCLES IN CAMBODIA¹

Cambodia's credit cycles exhibit significant sensitivity to global financial conditions, with common global and regional factors explaining around 60 percent of the country's credit growth variance—among the highest in Asia. Our analysis shows that Cambodia's response to external shocks, including US monetary policy, Chinese growth, and global risk sentiment, operates almost entirely through a common global credit channel rather than direct bilateral transmission. This high-beta exposure to the global financial cycle is an important driver of Cambodia's domestic credit swings.

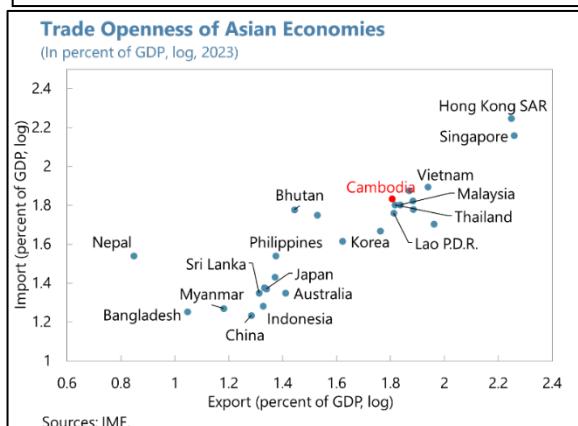
A. Introduction

1. Cambodia's credit growth has experienced extraordinary volatility over the past decades.

Private credit growth surged to over 25 percent annually for nearly two decades and sharply fell to a log single-digit growth in 2024. The cycles coincide remarkably with global events: the 2008-09 global financial crisis brought sharp contraction, followed by a sustained boom from 2010-2019 that ranked among the highest credit growth rates globally. The COVID-19 period brought a brief slowdown, followed by renewed rapid expansion through 2022, before the abrupt deceleration in 2023-24.



Various explanations have been proposed for the recent volatility, such as the unwinding of leveraged positions and changes in Chinese capital inflows. But given the complexity of these dynamics and the limited availability of high-frequency domestic data, quantifying the impact of various channels is a challenging task for policy makers.



Cambodia's economy remains highly dollarized, and its openness—with trade exceeding 120 percent of GDP—creates multiple channels through which global financial conditions can transmit easily to domestic credit markets. This structural characteristic creates a landscape where banks can easily borrow from abroad and build up leverage in boom years. Subsequently, banks' loan to deposit ratio reached nearly 130 percent at the peak of 2021. These developments suggest that external factors may play a significant role in Cambodia's credit dynamics.

¹ Prepared by Natasha Che (APD).

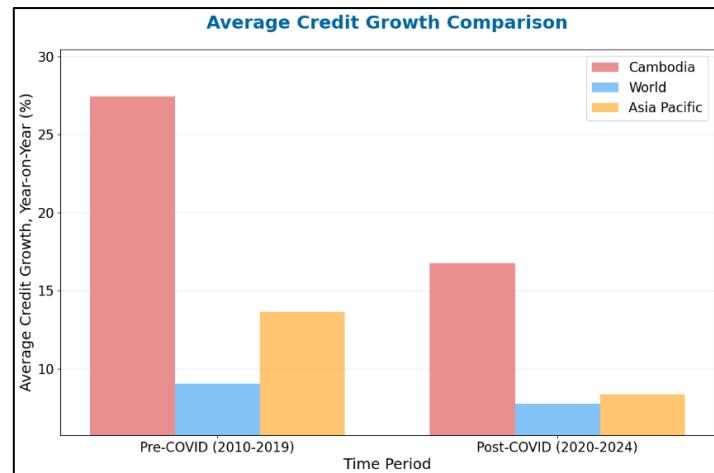
4. This annex aims to quantify the influence of external factors on Cambodia's credit cycles. Using a dynamic factor model applied to credit data from over 100 countries, we extract global and regional credit factors and measure Cambodia's sensitivity to these common dynamics. We then investigate whether external shocks—including changes in US and Chinese economic conditions, global risk sentiment, and US monetary policy surprises—affect Cambodia uniquely or primarily through their impact on the global common factor.

B. Data and Methodology

5. Our analysis draws on monthly credit-to-private-sector data for over 100 countries from 2000 to 2024. The global dataset enables the extraction of common credit factors. Cambodia's credit growth substantially exceeds both regional and global averages, highlighting its position as an outlier in terms of credit expansion. This extreme growth profile may signal an amplified response to external factors.

6. Cambodia's high credit growth stems from a confluence of drivers.

For much of the past two decades, the country has been a frontier economy undergoing rapid transformation, characterized by elevated GDP growth and a notable reduction in poverty. This created strong underlying demand for capital. The supply side of the credit equation was equally robust, fueled by several unique factors. High dollarization of the economy reduced currency risk, making it an attractive destination for foreign funding. A substantial portion of this credit boom was associated with the real estate and construction boom, which both drove and was driven by the nation's rapid economic development.



7. For individual external drivers, we compile monthly indicators covering key transmission channels:

- **Real economy indicators:** US and China Purchasing Managers' Indices (PMI) from the Institute for Supply Management and China's National Bureau of Statistics
- **Financial stress and risk sentiment:** US high-yield corporate credit spreads from FRED
- **Monetary policy shocks:** Orthogonalized US monetary policy surprises from the Federal Reserve Bank of San Francisco, capturing unexpected FOMC policy changes

Private credit and all external variables are transformed to year-over-year changes to ensure stationarity, except for monetary policy surprises which are inherently stationary.

8. Following Miranda-Agrippino and Rey (2020), we employ a state-space dynamic factor model to extract common components from credit growth across countries. Miranda-Agrippino and Rey demonstrate that a single global financial cycle factor explains over 20 percent of the variance in international risky asset prices, reflecting aggregate risk aversion and global financial conditions. Their work provides a well-established framework for identifying common dynamics in international financial variables, showing how US monetary policy and global risk sentiment drive synchronization across countries. Credit cycles around the world have similar underlining drivers as risk asset prices. We thus adapt a similar methodology to credit markets, where global credit factors may reflect common underlying forces affecting credit conditions worldwide.

9. The model decomposes each country's credit growth into common factors and idiosyncratic components:

$$y_{i,t} = \Lambda_i F_t + \epsilon_{i,t}$$

where $y_{i,t}$ is the standardized year-over-year credit growth for country i at time t , F_t is a vector of common factors, Λ_i are the factor loadings for country i , and $\epsilon_{i,t}$ is the idiosyncratic error term. The factors follow an autoregressive process:

$$F_t = \Phi F_{t-1} + \eta_t$$

where Φ is the transition matrix and $\eta_t \sim N(0, Q)$ is the factor innovation.

10. We jointly estimate both global and regional (Asian) factors using constrained maximum likelihood estimation. The global factor loads on all countries, while the regional factor loads only on Asian economies². Cambodia is excluded from factor estimation to avoid mechanical correlation with the extracted factors, then its loading coefficients are calculated by regressing Cambodia's credit growth on the estimated factors.

11. We then test whether external shocks affect Cambodia primarily through the global factor or through idiosyncratic bilateral channels. Building on Miranda-Agrippino and Rey's finding that US monetary policy drives the global financial cycle through common transmission channels, this approach allows us to distinguish between country-specific exposure and participation in broader global cycles.

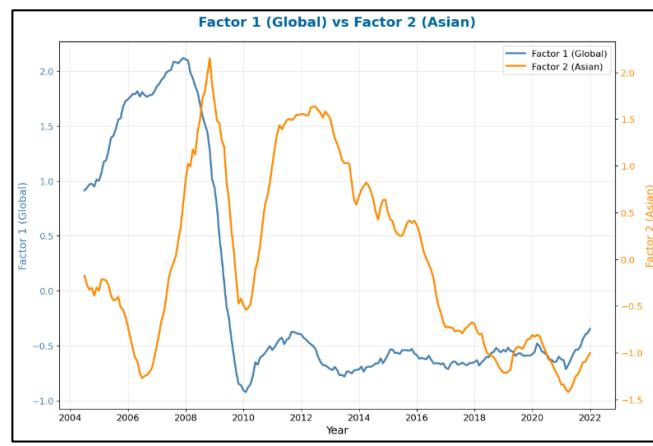
12. To this end, we estimate two competing VAR models. The first model includes individual external shock variables, including US monetary policy surprises, US corporate credit spreads, US and Chinese PMI, and Cambodia's credit growth. The second model adds the extracted global credit factor to this system. By comparing impulse responses and Granger causality tests across both specifications, we can assess whether apparent relationships between external variables and Cambodia's credit growth actually operate through common global channels.

² Asian economies included in regional factor estimation: China, Japan, Korea, Indonesia, India, Laos, Malaysia, Philippines, Singapore, Thailand, Vietnam, Bangladesh, Bhutan, Nepal, Pakistan, Maldives, Brunei, Macao SAR, and Mongolia (19 countries excluding Cambodia which is omitted from factor estimation).

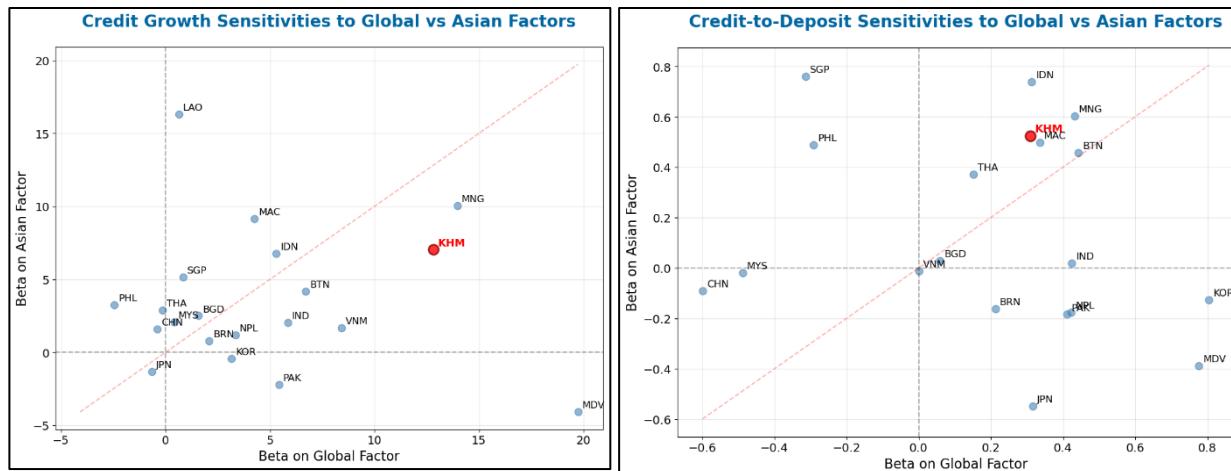
C. Results

13. The extracted global and Asian factors reveal both periods of synchronization and divergence³.

During certain episodes, the global and regional factors move together, most notably during the post-2008 financial crisis period (2009-2010) and the 2020 downturn and subsequent recovery, suggesting common external shocks affecting both global and regional credit conditions simultaneously. On the other hand, the factors also exhibit substantial periods of divergence, with the regional Asian factor showing greater volatility and often moving independently of global trends. These divergent periods suggest the presence of Asia-specific credit dynamics that operate beyond the influence of global common financial conditions. The higher volatility of the regional factor should be interpreted with caution, however, as it is estimated from a much smaller sample of countries than the global factor, which may contribute to weaker identification and amplified volatility.



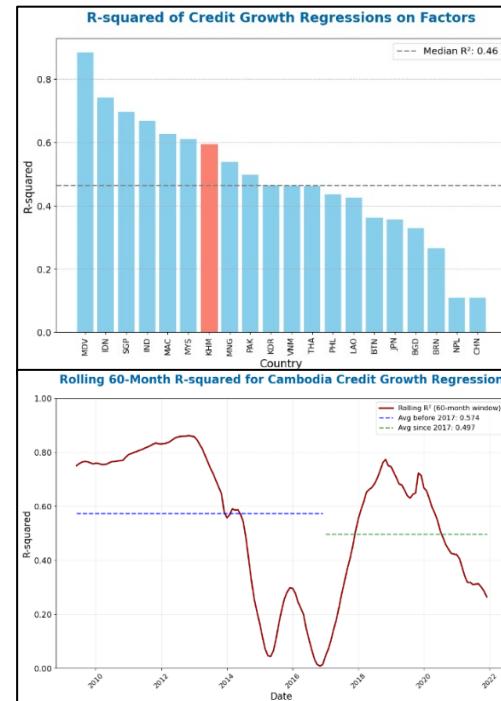
14. Cambodia exhibits among the highest loadings on both global and regional factors for credit growth. The scatter plot reveals Cambodia's position in the upper-right quadrant, indicating strong sensitivity to both global conditions ($\beta = 12.82$) and regional dynamics ($\beta = 7.02$). This suggests Cambodia experiences amplified responses to both worldwide and regional credit cycles. The significant synchronization with global and Asian financial cycles likely reflect trade linkages and cross-border capital flows within the region.



³ The orthogonalization process ensures these factors capture independent sources of variation, with the regional factor representing Asian-specific credit dynamics after controlling for global trends. This decomposition allows us to separately identify Cambodia's sensitivity to worldwide versus region-specific credit conditions.

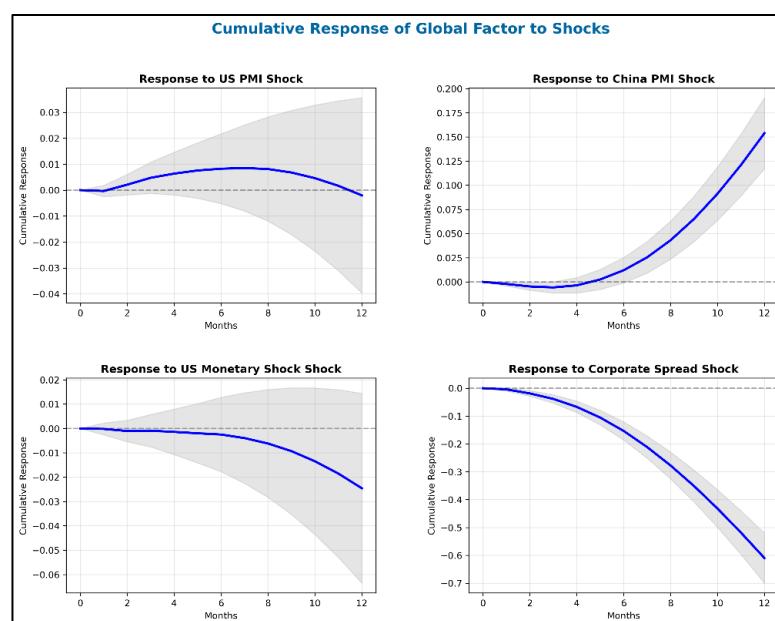
15. The credit-to-deposit ratio (CDR) loadings reveal a contrasting pattern in factor transmission channels. Cambodia's CDR shows moderate sensitivity to the global factor ($\beta = 0.31$) but exhibits a higher response to the regional Asian factor ($\beta = 0.52$). This pattern suggests that compared to the global factor, regional factors may have a relatively stronger impact on bank balance sheet composition. This differentiation may reflect distinct transmission channels: while global factors primarily drive overall credit expansion through broad economic and financial conditions, regional factors appear more influential for banking sector leverage and funding structures. This could indicate that regional economic integration and intra-Asian capital flows play a particularly important role in shaping how Cambodian banks manage their lending.

16. The factor model demonstrates strong but time-varying explanatory power across Asian economies. The full-sample regression of Cambodia's credit growth on both factors shows a high model fit, yielding an R^2 of 60 percent, indicating that global and regional factors together explain more than three-fifths of Cambodia's credit growth variation. This high explanatory power underscores the importance of external factors in driving Cambodia's credit cycles. However, a rolling window analysis reveals important temporal variation in this relationship, with an average R^2 of 0.57 for the sample before 2017 and 0.5 for the sample since. This variation suggests that while external factors have historically been dominant drivers of Cambodia's credit cycles, their influence may be episodic, with domestic factors potentially playing a larger role during certain periods, particularly in the recent post-pandemic environment.



17. To understand the economic interpretation of the global factor, we examine its reaction to various external shocks through impulse response analysis.

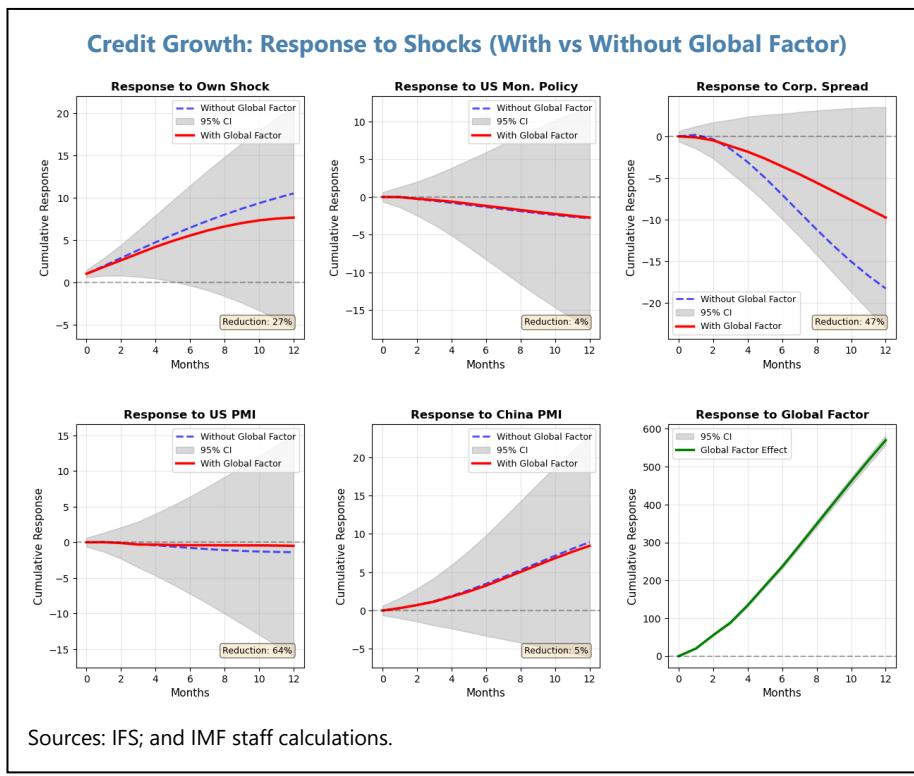
The global factor exhibits distinct patterns of response to different types of external disturbances, validating its role as a conduit for international credit cycle transmission. Specifically, the factor shows a strong and persistent positive response to improvements in Chinese economic activity, as measured by China PMI shocks. This



finding underscores China's growing importance as a driver of global business cycles. Conversely, the global factor responds negatively to US monetary policy tightening and corporate spread widening. The negative response to corporate spreads is particularly significant, indicating that global risk sentiment and credit market conditions are key drivers of the global factor. The response to US PMI shocks is more muted, with the global factor showing only modest positive responses that fade after 12 months. This suggests that while US manufacturing performance matters for global credit conditions, the transmission of US economic shocks may be more complex and mediated through other channels such as consumer demand monetary policy.

18. To distinguish between direct bilateral transmission and common global channels, we employ two VAR specifications. The critical question is whether external shocks affect Cambodia directly through unique bilateral exposures, or primarily through their impact on the global credit cycle. For instance, does Cambodia respond to China's growth because of specific trade linkages (direct channel), or because China drives global credit conditions that affect all countries, with Cambodia being particularly sensitive (global channel)? By comparing VARs with and without the global factor, we can identify which mechanism dominates.

19. The results from this comparison are revealing. The key finding is that when the global factor is included in the VAR specification, most external variables lose their apparent direct influence on Cambodia's credit growth, as evidenced by the wide confidence intervals around zero in the impulse response functions when the global factor is included in the estimation. In contrast, the global factor itself shows a highly significant and persistent effect even after 12 months.



20. The Granger causality results provide statistical confirmation of this pattern. Two variables—corporate spread and China PMI-- that initially appeared to Granger-cause Cambodia's credit growth lose their significance when the global factor is controlled for. The corresponding cumulative impulse responses show reductions of 47 percent and 5 percent respectively when the global factor is included.

P-Values from Granger Causality Tests		
Variable	P value without Global Factor	P value with Global Factor
Monetary Policy	0.35	0.84
Corporate spread	0.02**	0.98
US PMI	0.41	0.57
China PMI	0.07*	0.12
Global Factor	NA	0.00***

*** p<0.01, ** p<0.05, * p<0.1. P-values below these thresholds indicate that the underlining variable has statistically significant predictive power for Cambodia's credit growth (rejecting the null hypothesis of no Granger causality). P-values above these thresholds suggest no significant relationship.

21. These results provide important context for understanding Cambodia's credit volatility, though the time-varying nature of the relationships warrants careful interpretation.. The comparison between the two VAR specifications demonstrates that Cambodia exhibits little idiosyncratic sensitivity to external shocks beyond what would be expected from common global financial conditions. Rather than representing unique bilateral transmission channels, Cambodia's credit dynamics reflect a high-beta exposure to common global credit cycles that affect all economies. These results suggest that Cambodia's high credit volatility emerges from its position as a high-sensitivity economy within the global financial system. On the other hand, the declining explanatory power of the global factors in recent years indicates that domestic factors may periodically become more prominent. The recent credit deceleration, for instance, may reflect a combination of global financial conditions and country-specific factors such as real estate market adjustments and changes in capital inflows that are not fully captured by the global factors.

D. Conclusion

22. Our analysis reveals that common global and regional factors explain over 60 percent of Cambodia's credit variance, with the country exhibiting among the highest sensitivities to global credit cycles in our regional sample. However, rolling window analysis indicates this relationship shows significant time variation. Interestingly, when we control for the global credit factor in our VAR analysis, individual external shocks lose their statistical significance in driving Cambodia's credit growth. This suggests that external influences on Cambodia's credit cycles work primarily through common global financial cycle dynamics rather than through unique exposure to specific countries or shocks.

23. These findings provide important insight for policymakers. Macroprudential policies are likely to be more effective than traditional monetary policy tools for managing credit cycle, as much

of the domestic credit growth volatility is in fact outsized responses to common global shocks. In a dollarized economy with limited monetary autonomy, instruments such as loan-to-value ratios, capital requirements, and lending standards can be adjusted to dampen domestic amplification of global shocks without resorting to control over exchange rates or interest rates.

24. Enhanced monitoring of global financial conditions becomes particularly valuable given Cambodia's high sensitivity to global cycles. Our analysis shows that variables such as corporate spreads provide important signals about global credit conditions that ultimately affect Cambodia. This suggests that early warning systems should incorporate a suite of global financial market indicators to anticipate potential pressures before they fully transmit to the domestic economy.

25. These findings should be interpreted with appropriate caveats. The declining explanatory power of global factors in recent years suggests that the transmission mechanisms may be evolving or that recent credit dynamics reflect a greater role for domestic factors not captured in our framework. Future research could explore whether structural changes in Cambodia's financial system or shifts in the composition of capital flows could have altered the sensitivity to global cycles.

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