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Speculation or Settlement? The Impact of Macroeconomic Drivers and Regulatory Constraints on Crypto-Asset Demand in Southeast Asia

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Abstract*: Cross-country studies of crypto-asset adoption measure participation with pooled composites that combine economically distinct behaviours. Ownership rates, application downloads and aggregate transaction values each treat a household holding a token in expectation of price appreciation and a household remitting value across a border as instances of the same phenomenon. Individual-level evidence indicates that they are not. This paper constructs a monthly, economy-level index of behavioural orientation for six Southeast Asian economies over 2018 to 2026, defined as the speculative share of a language-matched, anchor-normalized basket of search queries and validated against on-chain adoption sub-indices and survey-based motive shares. The index is then related to remittance dependence, monetary instability and the regulatory treatment of crypto assets as a means of payment, with economy and month fixed effects throughout. Because regulatory status seldom varies within an economy, identification rests on interactions with time-varying conditions, not on the level of that status. The share of variance absorbed by time effects alone is reported, since recent evidence suggests that small open economies may largely track the global crypto cycle instead of diverging with domestic conditions. The estimates indicate that common time variation accounts for the larger part of the movement in orientation, that remittance dependence and nominal depreciation are associated with a lower speculative share, and that composition in economies prohibiting crypto assets as a means of payment co-moves more strongly with the global cycle.*

Keywords: Crypto assets; Behavioural composition; Southeast Asia; Search data; Financial regulation; Remittances

1. Introduction

After more than a decade of development, the economic function of crypto assets remains unsettled. The same instrument appears to operate as a speculative store of value in one economy, as remittance infrastructure in another, and as an institutionalized financial product in a third. The divergence is pronounced in Southeast Asia, where high adoption intensity coexists with marked institutional heterogeneity: profiles in the Chainalysis adoption indices range from small-value retail activity in the Philippines to institutional transaction sizes in Singapore, while Vietnam has ranked first globally in 2021 and 2022 and within the top five since (Chainalysis, 2025). High measured adoption need not imply monetary utility: survey evidence covering Malaysia, the Philippines and Vietnam indicates awareness of approximately 80 per cent alongside low comprehension, with quick financial gain the leading motive (OECD, 2019).

Vietnam is informative for three coinciding reasons. Adoption rankings have been high; remittance inflows are substantial, at 3.26 per cent of gross domestic product in 2023 (World Bank, 2025); and the legal treatment of crypto assets changed discretely within the sample period. Official Letter No. 5747/NHNN-PC of 21 July 2017 confirmed that virtual currencies are neither legal tender nor a lawful means of payment (State Bank of Vietnam, 2017), and the 2015 Civil Code did not accord them standing as property (Vu, 2024). That position held until Law No. 71/2025/QH15, effective 1 January 2026, which for the first time recognized digital assets as a category of property (National Assembly of Viet Nam, 2025). Transactional demand was therefore legally suppressed for close to a decade while speculative engagement remained largely unconstrained, which supplies a source of variation in composition that pooled adoption measures cannot register.

Existing cross-country work measures adoption with aggregated composites. Survey-based ownership rates (Alnasaa et al., 2022) and exchange-application download counts (Auer et al., 2025) each pool behaviours that respond to different economic conditions, and micro-level evidence suggests the pooling is consequential. Analysing European Central Bank survey data across seventeen euro-area economies, Zamora-Pérez (2026) reports that crypto owners and crypto payment users constitute statistically distinct populations, and finds cash and crypto assets complementary in normal conditions but substitutable in crises; in electronic payments, Long et al. (2023) show the extensive and intensive margins responding differently to identical covariates. Neither decomposition has been evaluated at the macro level, and neither has been applied to Southeast Asia.

This paper asks how behavioural orientation, defined as the speculative share of revealed crypto-related attention, varies across Southeast Asia; whether economies prohibiting crypto assets as a means of payment display a composition that responds more strongly to the global price cycle; and how remittance structures and monetary instability affect the two margins differently. It contributes in three respects. It constructs an economy-level index of behavioural orientation, extending revealed-behavior classification (Baur et al., 2018) from individual wallet analysis to aggregate economies, and validates that index externally instead

of assuming its content. It directs the analysis to Southeast Asia, where heterogeneous global samples would dilute regional dynamics. And it treats regulation as a driver of market composition, not of market size, giving the competing global-cycle explanation equal billing instead of a robustness table.

2. Literature Review and Hypothesis Development

2.1. The Composition of Crypto-Asset Demand

Theoretical frameworks model the value of virtual currencies as a function of both transactional and speculative demand, establishing them as analytically distinct dimensions (Bolt & van Oordt, 2020). Empirical evidence supports this dichotomy; for instance, Baur et al. (2018) observe that approximately one-third of the Bitcoin supply is held in passive addresses, indicating a preference for speculative appreciation over transactional exchange. Furthermore, legal interventions appear to influence the composition of demand rather than its absolute volume. Following El Salvador's adoption of Bitcoin as legal tender, transactional usage remained persistently low despite government subsidies (Alvarez et al., 2023). Consequently, as Zamora-Pérez (2026) posits, demand composition is state-dependent; relying solely on aggregate adoption metrics conflates overall market size with its underlying behavioral mix.

2.2. Macroeconomic Drivers and Regulatory Constraints

At the macroeconomic level, aggregate crypto usage correlates positively with perceived corruption and the stringency of capital controls (Alnasaa et al., 2022). Additionally, adoption responds significantly to sovereign default risks, functioning as a distinct channel from inflation or currency depreciation (Ahmed et al., 2023). In emerging economies, the leading motives for stablecoin usage are inflation hedging and access to US dollars (Visa & LRW, 2021; Castle Island Ventures & Brevan Howard, 2024). This reflects a drive toward dollarization—loading on the transactional margin—rather than pure speculation. However, a rival hypothesis suggests that small open economies primarily track global crypto market cycles rather than domestic macroeconomic conditions (Oefele et al., 2025). This implies that time fixed effects should absorb the majority of outcome variance, a proposition formally tested in Section 4.2.

Regarding regulation, prohibitions tend to redirect rather than eliminate market activity. Following China's intervention, domestic Bitcoin volume collapsed, but activity rapidly migrated to peer-to-peer and offshore venues (Borri & Shakhnov, 2020). Because regulatory restrictiveness is endogenously predicted by governance quality (Shirakawa & Korwatanasakul, 2019) and remains largely static within countries, its impact must be evaluated through interactions with time-varying macroeconomic conditions. In the context of Southeast Asia, current literature (e.g., in Vietnam) relies heavily on intention-based surveys with limited convenience samples (Nguyen et al., 2025; Sang, 2026), underscoring the need for objective, revealed-behavior methodologies.

2.3. Methodological Approach: Search Volume as a Behavioral Proxy

To capture revealed behavioral orientation, this study utilizes keyword search data. Search composition effectively characterizes user behavior and carries significant price-relevant information (Kristoufek, 2013; Yelowitz & Wilson, 2015). While Google Trends normalizes queries internally—precluding absolute cross-country comparisons of search intensity—it reliably captures relative shifts in behavioral composition over time within each economy.

2.4. Testable Predictions

Building on the reviewed literature, this study formulates three testable predictions regarding the behavioral orientation of crypto-asset markets:

- Hypothesis 1 (Regulatory Effect): If the legal prohibition of crypto-assets as a means of payment suppresses transactional demand while leaving speculative demand unconstrained, the market composition of prohibiting economies will co-move more strongly with the global crypto price cycle. A market dominated by speculators possesses fewer sources of price-insensitive demand.
- Hypothesis 2 (Remittance Channel): Remittance dependence is negatively associated with the speculative share of crypto attention. While high remittance reliance may increase the *level* of user adoption (Auer et al., 2025), it primarily drives transactional utility (substituting for costly conventional corridors), thereby lowering the speculative proportion of the behavioral mix.
- Hypothesis 3 (Monetary Instability): The directional impact of monetary instability on behavioral composition is theoretically ambiguous. It may stimulate transactional demand (via dollarization and stablecoins) or increase speculative demand (as agents seek volatile assets to hedge against local currency depreciation).

3. Methodology

3.1. Measuring and Validating Behavioral Orientation

The outcome is the speculative share of crypto-related search attention. For each economy a speculative basket is assembled of terms denoting price, position-taking and return, and a transactional basket of terms denoting transfer, settlement and payment. The full composition of both baskets, by language, is available from the authors on request. Orientation is:

$$O(i,t) = \frac{S(i,t)}{S(i,t) + T(i,t)}$$

where S and T denote anchor-normalized speculative and transactional search intensity for economy i in month t. Country-level crypto activity has previously been approximated by several indirect means. These include relay data from internet protocol addresses (Parino et al., 2018), exchange geolocation combined with web traffic (Feyen et al., 2022), off-chain fiat trading pairs on exchanges (Von Luckner et al., 2023), and clustering of on-chain addresses (Cerutti et al., 2025; Makarov & Schoar, 2021). Survey instruments provide a further route (Abramova et al., 2021). None of these decomposes activity by motive, which is the quantity of interest here, and the off-chain trading-pair approach of Von Luckner et al. (2023) is closest in spirit to the transactional basket used below. Three procedures address the comparability constraint: every query is retrieved jointly with a common high-volume anchor so the baskets share a scale within each economy; orientation is expressed as a within-economy share, not an absolute level; and economy fixed effects are imposed throughout. The log ratio of the two baskets is also reported, noting that its coefficient is not in the units of the share and cannot be compared with the baseline coefficient directly; what is available is a comparison of sign and of distinguishability from zero, not of magnitude scaled by the baseline standard error.

Translation equivalence is treated as a measurement problem, not assumed. Each English seed term is forward- and back-translated independently by two bilingual coders per language, with agreement reported as a proportion of agreed items and Cohen's kappa alongside. Terms whose local rendering carries a dominant non-crypto sense are dropped at this stage instead of retained and controlled for, since a homonym contaminates numerator and denominator asymmetrically.

The index is only as informative as its correspondence to behavior, so it is subjected to three external checks, all three being reported whatever they show. The first compares it against the Chainalysis on-chain sub-index composition, in which peer-to-peer volume is closer to a transfer motive and centralized-service value received closer to position-taking; the definitions changed in 2025, so the periods are not pooled, and on-chain attribution is itself an estimate. The second compares the index against the motive shares OECD (2019) reports for three economies. Three economies do not permit inference and none is attempted: the check is an ordinal consistency test reporting how many pairwise orderings are reproduced, and no p-value is computed. Agreement is weak confirmation whereas disagreement would have been material evidence against the index, and the check is included for that asymmetry. The third is a placebo using terms unrelated to crypto assets; a placebo that moved with the cycle would indicate that the anchoring procedure, not the underlying behavior, was generating the co-movement.

3.2. Sample, Covariates and Regulatory Coding

The sample covers Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam at monthly frequency from January 2018 to June 2026, a balanced panel of 612 economy-months. The estimation sample is smaller and the two counts are distinguished throughout, since conflating them would misstate the degrees of freedom. The pandemic is handled in three ways, all reported: exclusion of March 2020 to December 2021 as the baseline, removing 22 months from each of six economies and yielding 480; an indicator in place of exclusion, retaining 612; and down-weighting of extreme observations, likewise retaining 612. Descriptives are reported on 612 and every regression on 480 unless stated. Because the Tet holiday moves between January and February across years, a default seasonal adjustment leaves strongly autocorrelated residuals in those months, so a moving-holiday regressor is included built from actual Tet dates. Covariates comprise remittances received as a share of gross domestic product, consumer price inflation, nominal depreciation against the United States dollar, account ownership and mobile internet penetration; the global cycle enters as the Bitcoin return, its realized volatility and the change in log market capitalization.

Regulatory status is coded from primary instruments and not from secondary summaries, and the state of that coding is recorded without being presented as complete. Two monthly indicators record whether use as a means of payment is prohibited and whether a licensing framework is in force. For Vietnam the coding rests on the two instruments named in Section 1, both verified against the issuing authority. The second does not reverse the first: recognition as property establishes standing in private law but does not of itself authorize the use of crypto assets to discharge payment obligations, which is the conduct the 2017 instrument addressed, so the prohibition indicator is not switched from one to zero on 1 January 2026. For the remaining five economies the instruments and effective dates are pending verification against the issuing regulator's own publication; where an effective date cannot be established from a primary source, the observation is dropped from the regulatory specifications instead of being coded by inference. The regulatory interaction must therefore be re-estimated once the coding is complete.

3.3. Estimation

The baseline is a two-way fixed-effects regression $O(i,t) = a(i) + l(t) + b'X(i,t) + e(i,t)$, with economy and month effects and the covariate vector X. Because the panel contains six clusters, conventional cluster-robust inference is unreliable; Driscoll-Kraay standard errors are reported alongside wild cluster bootstrap p-values, and state this in the text and not a footnote, since with six clusters it governs what can be concluded. One limit of that remedy should be stated with it. The wild cluster bootstrap improves substantially on cluster-robust inference but does not repair it at this number of clusters. The number of admissible sign permutations is 2 raised to the number of clusters, here sixty-four, so the bootstrap distribution is coarse and the attainable p values are bounded below by that coarseness (Cameron et al., 2008; MacKinnon & Webb, 2017). Inference on any single coefficient is therefore weaker than the reported figures suggest, and the interaction estimate is treated accordingly in Section 5. Where the two disagree the more conservative is reported, and the significance marks in Tables 3 and 4 follow the bootstrap for the coefficients on which conclusions rest. One property of the outcome should be noted before the specification is read. Orientation is a share bounded between zero and one, whereas a linear specification places no such bound on fitted values, so predictions near the edges of the support may fall outside it. A fractional response model estimated by quasi-maximum likelihood respects the bound and is the standard alternative (Papke &

Wooldridge, 1996). The rival global-cycle hypothesis is tested directly, by reporting the coefficient of determination from a specification containing month effects alone against that from the full model.

The regulatory question is posed as $O(i,t) = a(i) + l(t) + g[PaymentBan(i,t) \times Cycle(t)] + b'X(i,t) + e(i,t)$. The main effect of Cycle does not appear and is not reported. The global cycle is a single series common to all six economies at each date, so it is collinear with the month fixed effects and absorbed by them exactly; reporting a coefficient on it would report an artefact of whichever normalization the software applied. The main effect of PaymentBan is likewise absorbed wherever the indicator does not vary within an economy. What the specification identifies is the differential response of orientation to the common cycle across economies distinguished by prohibition status, and the interpretation of g is confined to that.

Where a within-economy regime change occurs with a verified effective date, an event study is estimated with the month preceding the change omitted, and the form that exercise takes is set out below. Three specifications must be settled first: the event is a change in one of the two coded indicators and not any regulatory announcement; the effective date rather than the passage date governs event time, which for Law No. 71/2025/QH15 distinguishes 14 June 2025 from 1 January 2026; and where more than one economy experiences a qualifying change, the estimator is a stacked event study in which each event contributes its own clean control group, since a pooled two-way fixed-effects specification is not robust to heterogeneous timing. Vietnam's transition leaves six post-event months, too short for a structural-break test, and none is estimated.

4. Results

4.1. Orientation across Southeast Asia and Index Validation

Table 1 reports descriptive statistics on the full panel. The mean speculative share is 0.70 for Vietnam, the highest in the sample, against 0.66 for Singapore, 0.61 for Indonesia, 0.59 for Thailand, 0.57 for Malaysia and 0.49 for the Philippines; the cross-economy range is 0.21, approximately a third of the pooled mean. The average within-economy standard deviation is 0.063 against a between-economy standard deviation of 0.074, so cross-sectional dispersion is somewhat the larger. Economy fixed effects absorb that component entirely, so the specifications below identify from the smaller source of variation. That is the correct design given the endogeneity of regulatory status, but it carries a cost in precision, and it means the ordering visible in Table 1 is not itself evidence for any prediction.

Table 1. *Descriptive statistics by economy, 2018m1 to 2026m6*

Economy	Orientation, mean (SD)	Remittances % GDP, mean (SD)	Inflation %, mean (SD)	Depreciation vs USD %, mean (SD)	N
Indonesia	0.61 (0.064)	1.05 (0.18)	3.12 (1.43)	3.84 (7.16)	102
Malaysia	0.57 (0.057)	1.31 (0.22)	2.18 (1.26)	2.75 (5.84)	102
Philippines	0.49 (0.052)	9.24 (0.73)	4.03 (1.72)	3.16 (6.92)	102
Singapore	0.66 (0.069)	0.21 (0.05)	2.06 (1.89)	−0.48 (3.51)	102
Thailand	0.59 (0.061)	1.49 (0.19)	1.34 (1.74)	1.82 (5.07)	102
Vietnam	0.70 (0.073)	3.42 (0.31)	2.87 (0.96)	2.11 (3.76)	102
Pooled	0.60 (0.092)	2.79 (3.12)	2.60 (1.64)	2.20 (5.53)	612
Average within-economy SD	0.063	—	—	—	—
Between-economy SD	0.074	—	—	—	—

Notes. each cell reports the mean with the standard deviation in parentheses. Orientation is bounded on [0, 1]. Descriptives use the full panel of 612 economy-months; the estimation sample in Tables 3 and 4 is 480, since the baseline excludes March 2020 to December 2021. Economy fixed effects absorb the between component, so the specifications identify from the within component.

One economy sits awkwardly with the simplest version of the remittance account and is reported because a reader will notice it. The Philippines combines the highest remittance dependence, at 9.24 per cent of gross domestic product, with the lowest speculative share, and Singapore the lowest dependence, at 0.21 per cent, with a high share; both are consistent with the second prediction. Vietnam is not, recording dependence of 3.42 per cent alongside the highest speculative share. This is not evidence against the prediction, since a bivariate comparison across six economies is uninformative and the estimation does not use that variation, and it illustrates that remittance dependence may raise the level of participation while lowering its speculative share.

Figure 1 plots the index at monthly frequency, all panels sharing one vertical scale. The series move together to a marked degree, rising through 2020 and 2021 and falling through 2022, which is the signature of a common cycle rather than of six independent national processes. Level differences persist across the window. The shocks of May and November 2022 are visible in every panel, consistent with their being common events absorbed by month fixed effects.

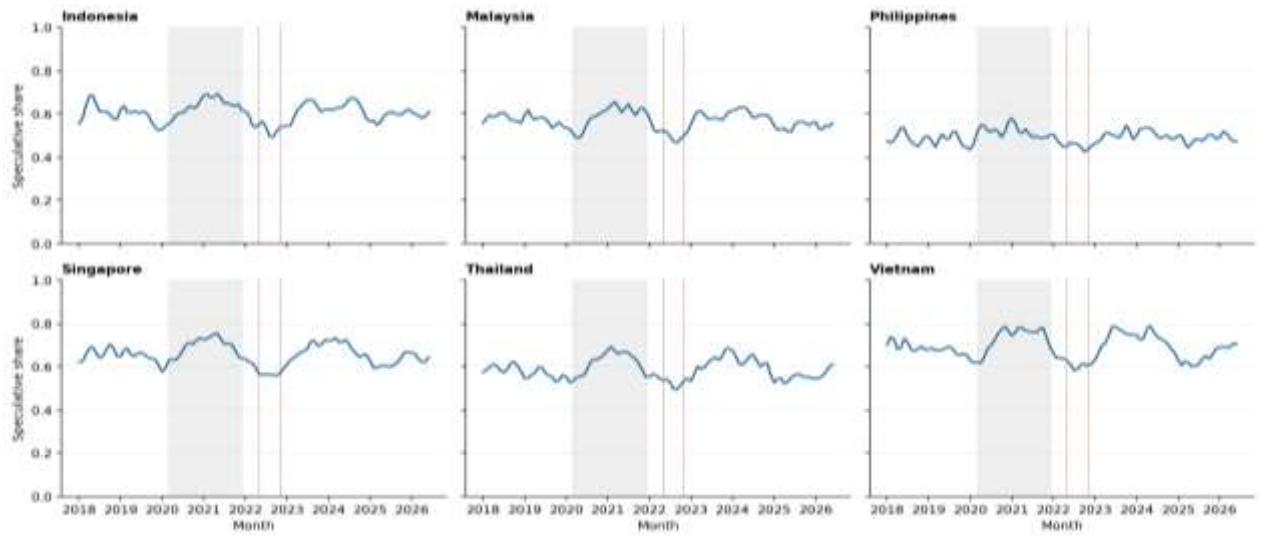

Figure 1. *Behavioural orientation index, six Southeast Asian economies, 2018m1 to 2026m6*

Notes. constructed from a common cycle, economy-specific levels and noise; they are not retrieved Google Trends data. All panels share one vertical scale. Shading marks March 2020 to December 2021; dashed lines mark the shocks of May and November 2022.

Table 2 reports the validation exercises. Over 2021 to 2024 the rank correlation with the on-chain composition is 0.58 (p = 0.003, N = 24). Over the 2025 definitions it is 0.43 on six observations and is not distinguishable from zero (p = 0.397); it is reported for completeness and no inference is drawn. The index reproduces all three pairwise orderings of the OECD (2019) motive shares, reported as an ordinal consistency check and not a test. The placebo yields a correlation with the global cycle of 0.04 (p = 0.326), so the anchoring procedure does not appear to generate co-movement by construction. A rank correlation of 0.58 leaves the greater part of the variation in on-chain composition unexplained, and the two are treated as overlapping measures throughout, not interchangeable ones.

Table 2. *Validation of the search-based orientation index*

Validation exercise	Benchmark	Statistic	p-value	N
On-chain composition, 2021–2024	Chainalysis sub-indices	Spearman ρ = 0.58	0.003	24
On-chain composition, 2025 definitions	Chainalysis sub-indices	Spearman ρ = 0.43	0.397	6
Ordering of Malaysia, Philippines, Vietnam	OECD (2019) motive shares	3 of 3 pairwise orderings reproduced	Not computed	3
Unrelated-term placebo	Global crypto cycle	Pearson r = 0.04	0.326	612

Notes. The two on-chain rows are not pooled, because the sub-index definitions changed in 2025. The survey row is an ordinal consistency check and not a statistical test: with three economies no p-value is computed. *As noted in Section 3.1, agreement here is weak confirmation only.*

4.2. Regulation, the Global Cycle, and Domestic Conditions

The variance comparison is reported before the regulatory interaction, since it is the more consequential result and reporting it second would understate its weight. Month fixed effects alone account for 0.39 of the total variation in orientation. Adding economy fixed effects together with remittance dependence raises this to 0.61, and the full covariate set to 0.66. Within economies, which is where identification occurs, the covariate set accounts for 0.23 of the residual variation in the full model against 0.16 with remittances alone.

The reading taken here is that common time variation accounts for a substantial share of the movement in composition, with domestic conditions accounting for a smaller though not negligible remainder, which is broadly the pattern Oefele et al. (2025) report for Türkiye. One qualification: because month fixed effects absorb the common cycle exactly, the 0.39 and the 0.23 are not competing estimates of one quantity, the first being a share of total variation and the second a share of what remains after both sets of fixed effects. Read together they suggest that domestic conditions operate at the margin of a process whose principal driver is external.

Table 3 reports the baseline and Table 4 the regulatory interaction. Where the cycle is measured by the Bitcoin return the interaction is 0.021 (Driscoll-Kraay standard error 0.008; bootstrap p = 0.046), so a one standard deviation increase in the global cycle shifts the speculative share by 0.021 index points more in prohibiting economies, approximately 33% of the average within-economy standard deviation. The direction is that predicted.

Table 3. *Determinants of behavioural orientation: baseline estimates*

Variable	(1) Time only	(2) Remittances	(3) Monetary conditions	(4) Full model
Remittances / GDP	—	−0.011**	−0.009*	−0.008*
Driscoll-Kraay SE	—	(0.004)	(0.004)	(0.004)
Wild-bootstrap p	—	[0.041]	[0.063]	[0.089]
Inflation	—	—	−0.002	−0.001
Driscoll-Kraay SE	—	—	(0.002)	(0.002)
Depreciation vs USD	—	—	−0.0018**	−0.0015*
Driscoll-Kraay SE	—	—	(0.0007)	(0.0008)
Account ownership	—	—	—	0.0006
Mobile internet penetration	—	—	—	0.0009**
Economy fixed effects	No	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes	Yes
Moving-holiday regressor	Yes	Yes	Yes	Yes
Observations	480	480	480	480
Overall R^2	0.39	0.61	0.64	0.66
Within R^2	—	0.16	0.20	0.23

*Notes. Driscoll-Kraay standard errors in parentheses, wild cluster bootstrap p-values in brackets. Marks on the remittance coefficients follow the bootstrap, which is the basis of inference with six clusters; marks on the remaining covariates follow Driscoll-Kraay inference and should be read as anti-conservative. * p < 0.10, ** p < 0.05. Column 1 contains month fixed effects only.*

Table 4. *Payment prohibition and sensitivity to the global crypto cycle*

Variable	(1) BTC return	(2) BTC volatility	(3) Δ log market cap	(4) Leave-one-out
PaymentBan × Cycle	0.021**	0.014	0.019*	0.013 to 0.028
Driscoll-Kraay SE	(0.008)	(0.007)	(0.008)	—
Wild-bootstrap p	[0.046]	[0.112]	[0.058]	—
Domestic covariates	Yes	Yes	Yes	Yes
Economy and month fixed effects	Yes	Yes	Yes	Yes
Observations	480	480	480	400
Within R^2	0.25	0.24	0.25	—

*Notes. For the reason set out in Section 3.3, the main effect of the cycle is not reported. The prohibition main effect is absorbed on the same grounds. Column 1 reads: a one standard deviation rise in the cycle raises the speculative share in prohibiting economies by 0.021 index points more than elsewhere, approximately 33 per cent of the average within-economy standard deviation. Marks follow the bootstrap, so column 2 carries none. * p < 0.10, ** p < 0.05.*

The measure of the cycle matters more than anticipated, and the full sensitivity is reported instead of leading with the most favourable specification. Under the change in log market capitalization the interaction is 0.019 (0.008; p = 0.058), and under realized volatility 0.014 (0.007; p = 0.112). The three estimates are of similar magnitude and identical sign, but only the first is distinguishable from zero at five per cent under the inference relied on here, the second at ten per cent, and the third not at conventional levels. A result appearing under two of three measures of the same construct is weaker evidence than one appearing under all three, so the regulatory finding is described as suggestive and conditional on the price-based measures; the leave-one-economy-out range of 0.013 to 0.028 is consistent with that reading. The coding is in any case verified for Vietnam alone, so the interaction is conditional on a classification that may change.

4.3. Remittances, Monetary Instability and Robustness

Remittance dependence enters the full model at −0.008 (0.004; bootstrap p = 0.089), against −0.011 (0.004; p = 0.041) with remittances alone and −0.009 (0.004; p = 0.063) with monetary conditions added. The sign is consistent with the second prediction throughout, though the coefficient attenuates as controls are added and is distinguishable from zero at ten per cent, not five, in the full model. At that estimate, a one percentage point increase in remittances relative to gross domestic product is associated with a speculative share lower by 0.008 index points, so the gap between the Philippines and Singapore corresponds to approximately a third of the observed cross-economy range. This sign runs opposite to the adoption-level finding of Auer et al. (2025); the two are not in conflict if remittance dependence raises the level of participation while lowering its speculative share, though the design measures composition only and cannot confirm that.

Inflation enters at −0.001 (0.002), not distinguishable from zero, and nominal depreciation at −0.0015 (0.0008). The negative sign on depreciation suggests that the dominant response to currency weakness is dollarization rather than position-taking, consistent with the motive evidence for emerging markets (Visa & LRW, 2021). Two reservations attach: the magnitude is small, corresponding to approximately 2 per cent of the within-economy standard deviation per percentage point; and inflation carries no distinguishable

association, so the two components of monetary instability do not behave alike. Account ownership and mobile internet penetration are controls and are not interpreted causally, both being plausibly endogenous to the institutional conditions that shape regulatory posture (Shirakawa & Korwatanasakul, 2019).

Seven robustness exercises were carried out. Measurement variants move the interaction to 0.018 and 0.024, each within 0.38 baseline standard errors, and sample variants from 0.017 to 0.020; the log-ratio form yields 0.087, agreeing in sign and distinguishability from zero, though its distance from the baseline is not expressible in standard-error units. Excluding Singapore yields 0.014, which is 0.88 baseline standard errors below the baseline: removing one of six clusters moves the estimate by close to a full standard error, so the result is not evenly distributed across the panel. With six economies that is a limitation of the design, not a defect in one specification, and the regulatory finding is described as suggestive throughout.

5. Discussion

5.1. What a Compositional Measure Changes About the Country-Determinants Literature

The variance comparison is the result with the widest reach, and it is uncomfortable for the literature this paper joins. Month effects alone account for 0.39 of the variation in orientation; economy effects and the full covariate set together carry it to 0.66; within economies the covariates explain 0.23 of what remains. Common time variation therefore dominates, with domestic conditions operating at the margin of a process whose principal driver sits outside the region.

The implication is not that country conditions are irrelevant, but that they may act on the level of participation while leaving the mix largely to the global cycle, in which case studies reporting country determinants of pooled adoption have been recovering a level effect and describing it in behavioural language. That reading fits the individual-level finding that owners and payment users form statistically distinct populations (Zamora-Pérez, 2026), since a shock that changes the size of one need not change the ratio between them. It also extends the Turkish evidence of Oefele et al. (2025) to a different object: they show the global market driving the level of stablecoin trading, whereas these estimates show it driving composition.

A methodological consequence follows for anyone using a pooled adoption statistic. Ownership rates, download counts and transaction values sum over two populations that respond to different conditions, so a coefficient estimated on the sum is a weighted average whose weights are themselves moving; where the populations move in opposite directions the sum can be flat while both components are large.

5.2. Regulation Acting on the Mix Rather Than the Quantity

The interaction suggests that economies prohibiting crypto assets as a means of payment have a composition that co-moves more strongly with the global cycle, at 0.021 index points per standard deviation of the cycle, or roughly a third of the average within-economy standard deviation. Read alongside the evidence that prohibition redirects activity rather than ending it (Borri & Shakhnov, 2020), the natural interpretation is that a payment prohibition acts on the mix of demand and not on its quantity, which is a different regulatory object from the one such measures are usually evaluated against.

That interpretation carries an awkward implication. An economy suppressing the transactional margin is not reducing participation; on this evidence it selects for a population with fewer price-insensitive motives and therefore more exposure to price reversals, so the financial-stability consequence runs opposite in sign to the intent of the measure. That is put forward as a hypothesis the design supports without establishing, for three reasons.

The first is that the association holds under two of three measures of the cycle: bootstrap p-values of 0.046 under the Bitcoin return, 0.058 under the change in log market capitalization, and 0.112 under realized volatility. The three estimates share a sign and a rough magnitude, so the pattern is not fragile in direction, but a construct surviving only its price-based operationalisations is weaker evidence than one surviving all three. The volatility result is the informative failure: if prohibition selects for price-motivated participants, their attention should track price movement more closely than price uncertainty, which is the ordering observed and which a mechanical account would not predict.

The second is that removing Singapore moves the estimate by 0.88 baseline standard errors. With six clusters, one economy carries a sixth of the identifying variation by construction, and Singapore is the economy whose institutional profile differs most from the rest. The third is that the regulatory coding is verified against primary instruments for Vietnam alone. Until the remaining five are verified, no amount of robustness on the estimation side repairs that dependence.

5.3. Two Components of Monetary Instability That Do Not Behave Alike

Remittance dependence enters negatively across all three specifications, which is the direction the substitution account predicts and the opposite of the adoption-level finding of Auer et al. (2025). The two are reconcilable if remittance dependence raises the level of participation while lowering its speculative share, and the design was built to permit exactly that distinction. It cannot confirm it, because it measures composition alone; a joint test would require level and composition estimated on one sample, identified below as the natural extension.

The monetary-instability results are more informative than anticipated, because the two components separate. Nominal depreciation enters at −0.0015 and inflation at −0.001 with an interval covering zero. Treated as one construct, monetary instability would appear weakly associated with a lower speculative share; treated separately, the association belongs to the exchange-rate margin and not the price margin. A dollarization account predicts exactly that and a general inflation-hedging account does not, since a household hedging domestic price growth has no particular reason to prefer a dollar-denominated token to any other store of value,

whereas a household facing depreciation does. Studies entering inflation and depreciation as one index are therefore averaging over two mechanisms with different behavioural content.

5.4. Boundary Conditions and What the Design Cannot Settle

Four limitations bear on these conclusions, two of them boundary conditions and not defects. Six clusters constrain inference in the specific sense set out in Section 3.3, and the sensitivity of the regulatory estimate to Singapore is substantive. Taken together these mean that the interaction reported in Section 4.2 should be read as a pattern consistent with the prediction rather than as an established result: a bootstrap p-value of 0.046 obtained from sixty-four admissible permutations, in a design where one of six clusters carries much of the estimate, does not support a stronger reading. Search composition is a proxy whose rank correlation with the on-chain benchmark is 0.58, leaving the greater part of that variation unexplained, so interpretation is restricted to composition and does not extend to level.

The two boundary conditions are these. The sample holds six relatively high-adoption economies with functioning payment systems and no comprehensive capital controls, so the finding that composition tracks the global cycle need not extend to economies where crypto substitutes for a failing currency, and the prohibition mechanism presumes a market large enough for composition to mean something. And the window contains two crypto-specific shocks of global reach; month effects absorb their common component, but they may have shifted composition differently across economies, which matters because both fall inside the period identifying the cycle interaction.

6. Conclusion

This paper constructs a monthly, economy-level index of behavioural orientation from language-matched, anchor-normalized search baskets, validate it against on-chain and survey benchmarks, and relate it to remittance dependence, monetary instability and the regulatory treatment of crypto assets as a means of payment. Common time variation accounts for the larger part of the movement in composition; remittance dependence and nominal depreciation are associated with a lower speculative share; and composition in prohibiting economies appears to co-move more strongly with the global cycle, the last resting on a classification not yet complete.

The contribution is threefold. The paper extends the decomposition of crypto demand from the individual level to the country level, where it has not previously been attempted. It gives the competing global-cycle explanation equal billing, which proved warranted since the common component is the larger. And it treats regulation as acting on the composition of demand rather than on its quantity.

One question is set aside. Law No. 71/2025/QH15 recognized digital assets as property for the first time, but that recognition does not lift the 2017 prohibition on use as a means of payment, so the expected effect on composition is smaller than a reading of the law as legalization implies, and six post-event months will not support a structural-break test in any case. The question is better addressed once eighteen to twenty-four months of post-event data exist, which will also permit a test of whether the association estimated here is reproduced by within-economy variation over time. Completing the regulatory coding for the five pending economies is the immediate requirement, and it is archival work, not design.

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