Online Annex 3.1 Technical Annex—Measurement and Econometric Approach

3.1.1 Data Description

The empirical analysis covers 14 emerging markets (EMs) — Brazil, China, Colombia, Hungary, India, Indonesia, Malaysia, Mexico, Peru, Poland, South Africa, Romania, Thailand, and Türkiye[1] — over the period of 2012-2024. These emerging market economies offer relatively consistent monthly official data on investor holdings of marketable local currency government debt and therefore enable a comparative analysis of the stabilizing (destabilizing) roles of different investor types. We compiled monthly holdings data for three investor categories in each country: nonresidents, resident banks, and resident nonbank financial institutions (NBFIs). These categories cover only major investors and are not exhaustive; groups such as households or government entities are not included. This residual share is about 18% on average for the sample (see Annex Table 3.1.1).

Our measures of global shocks include two widely used indicators of global risk. First, the CBOE VIX, the implied volatility of US equities, serves as a proxy for global investor risk aversion, and is commonly used in studies on EM capital flows and bond spreads (e.g., Rey, 2015; Ebeke & Lu, 2015; BIS, 2024). Second, we use the Merrill Lynch Option Volatility Estimate (MOVE) index in robustness checks to capture volatility specific to the fixed income market. Additional global risk factors—such as the USD index for advanced economies, the Global Financial Cycle Index (Miranda-Agrippino & Rey, 2020), the Gilchrist-Zakrajšek credit spread, Excess Bond Premium, and the Risk-On/Risk-Off index (Chari, Dilts Stedman, & Lundblad, 2023)—were also tested ; they offered qualitatively similar results, though the magnitude of impact varied depending on the nature of the shock. These were omitted from the main analysis for simplicity.

Market strain is proxied by changes in the spreads of zero-coupon local currency government bonds relative to US Treasuries of the same maturity (i.e., the credit risk premia for global investors) and the bid-ask spreads of local currency bonds (i.e., market liquidity and the ease of trading without significant price impact). We focus on five-year bonds, which are actively traded across EMs. In addition to bond ownership and pricing, we include information on the country's macroeconomic fundamentals in our analysis, including the 3-month benchmark rate (as a proxy for interbank liquidity and monetary policy stance), real GDP growth, monthly inflation, sovereign credit ratings, and local currency government debt-to-GDP, which measures debt supply and serves as a proxy for market depth (D'Amico & King, 2013).

[1] The data sample after 2021m10 for Türkiye has been excluded due to high inflation, which significantly distorts yield and spread dynamics and undermines comparability with other EMs.

Online Annex Table 3.1.1 Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Nonresident share (%)	2110	22	12	1	58
Resident Bank share (%)	2019	29	15	2	76
Resident NBFI share (%)	1876	31	12	7	56
Other Resident Share (%)	1876	18	10	0	46
Δ 5y Yield Spread (bps)	2132	-1.42	36.75	-279.91	439.35
Δ 5y Bid-Ask Spread (bps)	1976	-0.02	1.65	-15.92	18.58
VIX (%)	156	18	6	12 (at p10)	25 (at p90)
VIX >p75	40	25	7	20 (at p10)	30 (at p90)
MOVE (%)	156	76	25	50 (at p10)	116 (at p90)
MOVE >p75	40	113	16	92 (at p10)	132 (at p90)

3.1.2 Empirical Design

To assess the impact of global shocks on EM local currency government markets, we adopt a panel regression to assess the impact of changes in the VIX index on yield spreads (bid-ask spreads) changes:

$$(1)\ \Delta y_{i,t} = \alpha + \boldsymbol{\beta_1}\Delta VIX_t + \beta_2 \Delta \%LCB/GDP_{i,t} + \beta_3 \Delta 3MRate_{i,t} + \beta_4\, \%Real\ GDP_{i,t-1} + \beta_5 Inflation_{i,t-1} + \beta_6 \Delta Rating_{i,t} + \delta_i + \epsilon_{i,t}$$

where $\Delta y_{i,t}$ is the change in 5-year yield (bid-ask) spreads from month *t-1* to month *t* for country *i*, and ΔVIX_t is the monthly change in VIX. We would expect β_1 to be positive such that global shocks are associated with increased stress in EM local currency government markets.

Control variables include the change in total local currency bond-to-GDP ($\Delta \%LCB/GDP_{i,t}$) with positive impact expected given greater market depth, the change in 3-month benchmark rate ($\Delta 3MRate_{i,t}$) which would raise the local yield at higher rates, the lagged real GDP growth ($\%Real\ GDP_{i,t-1}$) which may increase yields by raising expectations of future growth, the lagged inflation rate ($Inflation_{i,t-1}$) with an ambiguous expected effect, and the change in sovereign rating ($\Delta Rating_{i,t}$) where upgrades are expected to lower yields due to improved creditworthiness. δ_i captures country fixed effects, controlling for time-invariant structural characteristics and addressing potential omitted variable bias; Driscoll-Kraay standard errors are used, which allow for cross-sectional and temporal dependence.

Time fixed effect was not included in the baseline regression as it could absorb the variations in the global risk factors – ie, VIX and MOVE – that are time varying.[2] In a robustness test, the coefficients of the interaction terms weakened somewhat in the full sample for yield spreads and market liquidity when year fixed effect is included, but they remain similar to the baseline regression, suggesting that the lack of time fixed effects does not substantially bias the estimated association captured by the interaction terms, though the explanatory power of the coefficients should be interpreted with care.

[2] The drawback to this approach is that changes in the VIX index could be capturing other global factors that comove with the VIX; the interaction coefficient between the VIX index and investor shares could thus pick up the influence of investor base on the impacts of other shocks, thereby confounding the interpretation of their effect on price and liquidity dynamics.

To assess how nonresident holdings affect the impact global shocks, we added the nonresident share lagged by one month to minimize the possibility of reverse causality, and its interaction term with the change in VIX:

$$(2)\ \Delta y_{i,t} = \alpha + \beta_1 \Delta VIX_t + \beta_2\, NonResidentShare_{i,t-1} + \boldsymbol{\beta_3} \Delta VIX_t * NonResidentShare_{i,t-1} + Controls + \delta_i + \epsilon_{i,t}$$

Similarly, to evaluate the role of resident investors, we added the shares of resident banks and resident NBFIs, both lagged by one month, along with their respective interaction terms with the change in VIX:

$$(3)\ \Delta y_{i,t} = \alpha + \beta_1 \Delta VIX_t + \beta_2 ResidentBankShare_{i,t-1} + \boldsymbol{\beta_3} \Delta VIX_t * ResidentBankShare_{i,t-1} + \beta_4 ResidentNBFIShare_{i,t-1} + \boldsymbol{\beta_5} \Delta VIX_t * ResidentNBFIShare_{i,t-1} + Controls + \delta_i + \epsilon_{i,t}$$

These interaction terms are key considerations as they help capture the effect of different types of investors on the transmission of global risk to EM local currency bond markets. A negative coefficient on the interaction term suggests a stabilizing role, where greater participation of these investors is accompanied by a dampening in the impact of global shocks; conversely, a positive coefficient implies an amplifying effect that exacerbates market tension. Since nonresident and resident shares are highly correlated, we estimate the role of nonresident and resident investors in two separate regressions to minimize the impact of multicollinearity.

Additionally, to assess the persistence of impacts of global shocks and the effect of investor participation, we estimate a panel local projection model (Jordà, 2005) over the next 12 months:

$$(4)\ \Delta y_{i,t+h} = \alpha + \boldsymbol{\beta_1^h} \Delta VIX_t + \boldsymbol{\beta_2^h} \Delta VIX_t * InvestorShare_{j,i,t-1} + Controls + \delta_i^h + \epsilon_{i,t}^h$$

To mitigate concerns about reverse causality, we conduct two checks. First, we assess whether changes in EM yield spreads or bid-ask spreads significantly affect changes in the VIX by reversing the panel regression setup—using the change in yield (or bid-ask) spreads as explanatory variables and the change in VIX as the dependent variable. The results show no significant relationship, even without controls, suggesting that EM market stress does not drive global risk sentiment contemporaneously (Annex Table 3.1.8). Second, we replace the one-month lag of investor shares with a quarterly lag (i.e., three months). The results remain consistent, supporting the assumption that investor shares are slow moving (Annex Table 3.1.9).

3.1.3 Regression Results

Annex Table 3.1.2 presents estimation results of Equations (1) – (3), separately for changes in yield spreads and bid-ask spreads. As expected, a 1 percentage point (ppt) increase in the VIX is associated with on average 1.93 bps widening in yield spreads and 0.075 bps widening in bid-ask spreads, all else equal. On average, a 1ppt increase in nonresident share is associated with an amplification of the impact by 0.033bps for yield spreads, and 0.001bps for bid-ask spreads. Meanwhile, a 1ppt increase in resident bank share is accompanied by an attenuation of the impact by -0.053bps for yield spreads, and -0.001bps for bid-ask spread. The coefficients of control variables generally align with expected signs, though statistical significance varies.

In the main text, we present the impacts of a 10ppt increase in the VIX and the estimated marginal impact of investor participation based on a one standard deviation in market share: from 22% (average) to 34% for nonresidents, 29% to 44% for resident banks, and 31% to 43% for resident NBFIs (Figure 7). Solid stacked bars represent amplification effects, while hollow stacked bars denote mitigation. Shaded areas indicate estimates that are not statistically significant at the 90% confidence level. Stress periods are defined as periods when the VIX exceeds its 75th percentile based on historical observations, with corresponding regression results shown in Annex Table 3.1.3. The durability of these effects, estimated using local projections (Eq. (4)), is presented in Figure 8.

We also conduct three heterogeneity tests based on regional grouping, government debt levels, and sovereign credit ratings. Annex Table 3.1.4 shows results for EM Asia, where resident NBFIs participation plays a stabilizing role. Annex Table 3.1.5 presents results for subsamples with high government debt-to-GDP ratios, defined as above the sample median of 47%. Annex Table 3.1.6 reports results for subsamples with lower-than-median sovereign ratings. Overall, countries with weaker credit ratings and higher debt burdens are more vulnerable to global shocks when they rely heavily on nonresident financing. However, a larger resident investor base can provide a greater stabilizing effect, though potentially at the cost of financial repression or increased sovereign-bank linkages.

Lastly, for robustness check, Annex Table 3.1.7 presents results using the MOVE index as an alternative measure of global financial volatility, confirming the consistency of our main findings.

Online Annex Table 3.1.2 Impacts of VIX and investor participation on LCBMs—Full Sample

	Panel A: 5y Yield Spread to UST			Panel B: 5y Bid-Ask Spread		
	(1)	(2)	(3)	(4)	(5)	(6)
In bps	Baseline	NonResident	Resident	Baseline	NonResident	Resident
ΔVIX_t	1.930***	1.229*	3.415***	0.075***	0.044***	0.176***
	(3.935)	(1.757)	(3.161)	(3.208)	(3.001)	(3.019)
$NR\ Share_{i,t-1}$		-0.154			0.008	
		(-1.121)			(1.504)	
$\Delta VIX_t * NRShare_{i,t-1}$		0.033**			0.001**	
		(2.233)			(2.112)	
$BankShare_{i,t-1}$			0.089			-0.012*
			(0.439)			(-1.691)
$\Delta VIX_t * BankShare_{i,t-1}$			-0.053***			-0.001*
			(-2.734)			(-1.734)
$NBFIShare_{i,t-1}$			-0.028			-0.006
			(-0.180)			(-0.978)
$\Delta VIX_t * NBFIShare_{i,t-1}$			0.001			-0.002***
			(0.046)			(-3.094)
$\Delta\%LCB/GDP_{i,t}$	-3.065**	-3.059**	-2.018*	-0.059	-0.060*	-0.035
	(-2.231)	(-2.227)	(-1.916)	(-1.637)	(-1.676)	(-1.282)
$\Delta 3MRate_{i,t}$	31.583***	31.848***	24.341***	0.700**	0.707**	0.407**
	(6.764)	(6.600)	(4.384)	(2.515)	(2.528)	(2.157)
$\%Real\ GDP_{i,t-1}$	0.425	0.410	0.522**	-0.003	-0.003	0.006
	(1.567)	(1.556)	(2.387)	(-0.287)	(-0.256)	(0.761)
$Inflation_{i,t-1}$	-0.991**	-1.058**	-0.878**	-0.013	-0.010	-0.013
	(-2.018)	(-2.209)	(-2.110)	(-1.122)	(-0.908)	(-1.334)
$\Delta Rating_{i,t}$	-42.725	-42.665	-22.354	-1.480	-1.453	-0.334
	(-1.470)	(-1.471)	(-1.469)	(-1.567)	(-1.536)	(-0.825)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,085	2,056	1,863	1,929	1,929	1,817
Number of groups	14	14	14	13	13	13

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Online Annex Table 3.1.3 Impacts of VIX and investor participation on LCBMs—Stress Periods

	Panel A: 5y Yield Spread to UST			Panel B: 5y Bid-Ask Spread		
In bps	(1) Baseline	(2) NonResident	(3) Resident	(4) Baseline	(5) NonResident	(6) Resident
ΔVIX_t	2.148***	1.545***	2.623**	0.103***	0.061***	0.236***
	(5.101)	(2.733)	(2.307)	(6.678)	(6.787)	(5.204)
$NR\ Share_{i,t-1}$		0.125			-0.015	
		(0.358)			(-1.398)	
$\Delta VIX_t * NRShare_{i,t-1}$		0.027**			0.002***	
		(2.490)			(3.820)	
$BankShare_{i,t-1}$			-0.286			0.022
			(-0.489)			(1.446)
$\Delta VIX_t * BankShare_{i,t-1}$			-0.039**			-0.001***
			(-2.144)			(-3.037)
$NBFIShare_{i,t-1}$			0.055			0.024
			(0.165)			(1.474)
$\Delta VIX_t * NBFIShare_{i,t-1}$			0.019			-0.003***
			(0.740)			(-4.359)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	525	523	491	486	486	472
Number of groups	14	14	14	13	13	13

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Online Annex Table 3.1.4 Impacts of VIX and investor participation on LCBMs—EM Asia

	Panel A: 5y Yield Spread to UST			Panel B: 5y Bid-Ask Spread		
In bps	(1) Baseline	(2) NonResident	(3) Resident	(4) Baseline	(5) NonResident	(6) Resident
ΔVIX_t	1.478***	0.455	5.876***	0.060***	0.007	0.261***
	(3.241)	(0.913)	(3.831)	(3.072)	(0.300)	(5.301)
$NR\ Share_{i,t-1}$		0.175			0.004	
		(0.823)			(0.448)	
$\Delta VIX_t * NRShare_{i,t-1}$		0.061***			0.003***	
		(4.340)			(3.974)	
$BankShare_{i,t-1}$			-0.188			-0.010
			(-0.767)			(-0.773)
$\Delta VIX_t * BankShare_{i,t-1}$			-0.058**			-0.003**
			(-2.190)			(-2.473)
$NBFIShare_{i,t-1}$			0.186			-0.009
			(0.631)			(-0.589)
$\Delta VIX_t * NBFIShare_{i,t-1}$			-0.078***			-0.004***
			(-2.922)			(-4.342)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	736	707	626	581	581	581
Number of groups	5	5	5	4	4	4

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Online Annex Table 3.1.5 Impacts of VIX and investor participation on LCBMs—High Govt Debt

	Panel A: 5y Yield Spread to UST			Panel B: 5y Bid-Ask Spread		
In bps	(1) Baseline	(2) NonResident	(3) Resident	(4) Baseline	(5) NonResident	(6) Resident
ΔVIX_t	2.122***	0.505	7.012***	0.064***	0.042*	0.337***
	(4.052)	(0.667)	(5.263)	(3.385)	(1.788)	(3.899)
$NR\ Share_{i,t-1}$		-0.587***			-0.007	
		(-3.699)			(-1.549)	
$\Delta VIX_t * NRShare_{i,t-1}$		0.076***			0.001	
		(2.819)			(1.610)	
$BankShare_{i,t-1}$			0.273			-0.009
			(1.020)			(-1.116)
$\Delta VIX_t * BankShare_{i,t-1}$			-0.130***			-0.006***
			(-5.159)			(-3.553)
$NBFIShare_{i,t-1}$			-0.264			-0.005
			(-1.073)			(-0.612)
$\Delta VIX_t * NBFIShare_{i,t-1}$			-0.033			-0.003***
			(-1.047)			(-4.847)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,071	1,048	1,048	1,048	1,048	1,048
Number of groups	12	11	11	11	11	11

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Online Annex Table 3.1.6 Impacts of VIX and investor participation on LCBMs—Low Sov. Ratings

	Panel A: 5y Yield Spread to UST			Panel B: 5y Bid-Ask Spread		
In bps	(1) Baseline	(2) NonResident	(3) Resident	(4) Baseline	(5) NonResident	(6) Resident
ΔVIX_t	2.243***	0.958	6.198***	0.083***	0.037*	0.257***
	(3.654)	(1.182)	(4.904)	(3.328)	(1.784)	(6.035)
$NR\ Share_{i.t-1}$		-0.093			0.007	
		(-0.511)			(0.941)	
$\Delta VIX_t * NRShare_{i.t-1}$		0.064***			0.002***	
		(3.406)			(3.687)	
$BankShare_{i.t-1}$			-0.187			-0.023**
			(-0.604)			(-2.068)
$\Delta VIX_t * BankShare_{i.t-1}$			-0.104***			-0.002***
			(-4.523)			(-2.850)
$NBFIShare_{i.t-1}$			-0.027			-0.003
			(-0.088)			(-0.252)
$\Delta VIX_t * NBFIShare_{i.t-1}$			-0.026			-0.003***
			(-0.921)			(-7.098)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,211	1,211	1,099	1,210	1,210	1,098
Number of groups	10	10	10	10	10	10

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Online Annex Table 3.1.7 Impacts of MOVE and investor participation on LCBMs—Full Sample

	Panel A: 5y Yield Spread to UST			Panel B: 5y Bid-Ask Spread		
	(1)	(2)	(3)	(4)	(5)	(6)
In bps	Baseline	NonResident	Resident	Baseline	NonResident	Resident
$\Delta MOVE_t$	0.454**	0.201	1.133***	0.021**	0.005	0.040*
	(2.510)	(1.026)	(2.865)	(2.214)	(0.699)	(1.785)
$NR\ Share_{i,t-1}$		-0.137			0.008*	
		(-1.018)			(1.744)	
$\Delta MOVE_t * NRShare_{i,t-1}$		0.013**			0.001***	
		(2.458)			(3.080)	
$BankShare_{i,t-1}$			0.044			-0.013**
			(0.213)			(-2.070)
$\Delta MOVE_t * BankShare_{i,t-1}$			-0.016***			-0.000
			(-2.632)			(-0.194)
$NBFIShare_{i,t-1}$			-0.011			-0.005
			(-0.066)			(-0.786)
$\Delta MOVE_t * NBFIShare_{i,t-1}$			-0.006			-0.001**
			(-0.669)			(-2.003)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,085	2,056	1,863	1,929	1,929	1,817
Number of groups	14	14	14	13	13	13

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Online Annex Table 3.1.8 Impacts of EM LCBMs on VIX—Reverse Causality Test

	Dependent Variable: ΔVIX_t			
In percent	(1)	(2)	(3)	(4)
$\Delta 5y\ yield\ spread_{i.t}$	0.033	0.032		
	(1.617)	(1.561)		
$\Delta 5y\ bid\ ask\ spread_{i.t}$			0.591	0.601
			(1.397)	(1.459)
Controls	NO	Yes	NO	Yes
Observations	2,132	2,085	1,976	1,929
Number of groups	14	14	13	13

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Online Annex Table 3.1.9 Impacts of VIX and investor participation on LCBMs—Quarterly Lag

	Panel A: 5y Yield Spread to UST			Panel B: 5y Bid-Ask Spread		
In bps	(1) Baseline	(2) NonResident	(3) Resident	(4) Baseline	(5) NonResident	(6) Resident
ΔVIX_t	1.930***	1.268*	3.487***	2.148***	1.581***	2.707**
	(3.935)	(1.820)	(3.089)	(5.101)	(2.889)	(2.187)
$NR\ Share_{i,t-3}$		-0.088			0.289	
		(-0.653)			(0.730)	
$\Delta VIX_t * NRShare_{i,t-3}$		0.030**			0.025**	
		(2.092)			(2.156)	
$BankShare_{i,t-3}$			0.066			-0.543
			(0.372)			(-0.935)
$\Delta VIX_t * BankShare_{i,t-3}$			-0.058***			-0.047**
			(-2.836)			(-2.243)
$NBFIShare_{i,t-3}$			-0.001			-0.053
			(-0.005)			(-0.165)
$\Delta VIX_t * NBFIShare_{i,t-3}$			0.002			0.021
			(0.062)			(0.776)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,085	2,028	1,833	525	523	488
Number of groups	14	14	14	14	14	14

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

References

Chari, A., Stedman, K. D., & Lundblad, C., 2023. *Risk-on risk-off: A multifaceted approach to measuring global investor risk aversion*. National Bureau of Economic Research, No. w31907.

D'Amico, Stefania and King, Thomas B., 2013. *Flow and stock effects of large-scale treasury purchases: Evidence on the importance of local supply*. Journal of Financial Economics, Volume 108, Issue 2, pp.425-448.

Ebeke, Christian, and Yinqiu, Lu, 2015. *Emerging market local currency bond yields and foreign holdings–a fortune or misfortune*? Journal of International Money and Finance, 59, pp.203-219.

Gilchrist, S., & Zakrajšek, E., 2012. *Credit spreads and business cycle fluctuations*. American Economic Review, *102*(4), 1692–1720.

Gilchrist, S., Wei, B., Yue, V. Z., & Zakrajšek, E., 2022. *Sovereign risk and financial risk*. Journal of International Economics, *136*, 103603.

Jordà, Òscar. 2005. *Estimation and inference of impulse responses by local projections*. American Economic Review 95 (1): 161–182.

Rey, Hélène. 2015. *Dilemma not trilemma: the global financial cycle and monetary policy independence*. National Bureau of Economic Research, No. w21162.

Miranda-Agrippino, S., & Rey, H., 2020. *US monetary policy and the global financial cycle*. The Review of Economic Studies, 87(6), 2754–2776.

Van Doornik, B.F.N., Frost, J., Guerra, R., Tombini, A. and Upper, C., 2024. *Towards liquid and resilient government debt markets in EMEs*. BIS Quarterly Review.

Online Annex 3.2 Technical Annex— Country Classification of Local Currency Bond Markets

3.2.1 Classification Methodology

1. The chapter examines a sample of [55] EMDEs based on IMF classifications. Countries are further categorized by market size, fragmentation, and market inclusion (see table below). Within the emerging market group, countries are classified into "Major EMs" and "Other EMs, based on (i) the size of the domestic marketable debt portfolio relative to the size of the economy and (ii) a measure of market liquidity and fragmentation based on the proportion of outstanding bonds exceeding specific benchmark size. Frontier markets (FMs) are those included in the JPMorgan Next Generation Market Index (NEXGEM)[1], and other lower income countries (LICs) with outstanding international sovereign bond issuance, or other markets meeting certain market size criteria.

2. The chapter relies on this sample of 56 EMDEs and, where data limitations apply, uses subsets of countries to ensure comparability across indicators. Results should therefore be interpreted with reference to the effective sample available for each analysis.

Classification	Emerging Markets		Frontier Markets
	Major EMs	**Other EMs**	**Frontier Markets**
Countries	Brazil, China, Colombia, Hungary, India, Indonesia, Malaysia, Mexico, Philippines, Poland, South Africa, Thailand	Argentina*, Chile, Dominican Republic, Peru, Romania, Saudi Arabia, Türkiye	Algeria*, Angola, Armenia, Azerbaijan, Benin, Botswana, Cameroon, Congo, Rep, Costa Rica, Côte d'Ivoire, Ecuador, Egypt, El Salvador, Ethiopia, Gabon, Georgia, Ghana, Guatemala, Honduras, Jamaica Jordan, Kazakhstan, Kenya, Mongolia, Morocco, Mozambique, Namibia, Nigeria, Pakistan, Paraguay, Senegal, Sri Lanka, Tunisia, Uganda*, Uzbekistan, Vietnam, Zambia
Guiding Criteria	1) Local currency marketable bonds-to-GDP >25 percent; 2) 50 percent of outstanding bonds with size > $1 billion	(1) Local currency marketable bonds-to-GDP >10 percent; and 2) 20 percent of outstanding bonds with size > $1 billion	1)JPM NEXGEM inclusion 2) LIC status with outstanding Eurobonds. 3)Countries with * are those not meeting the other criteria but have a) Local currency marketable bonds-to-GDP >10 percent; and b) 15 percent of outstanding bonds with size > $250 million
Total	**12**	**7**	**37**