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IRRBB Management in Emerging Market and Developing Economies: The Role of Derivatives in Supporting Financial Stability and Economic Development

EXECUTIVE SUMMARY

Interest rate risk in the banking book (IRRBB) has become a growing priority for banks and regulators in emerging market and developing economies (EMDEs). As many of these countries face monetary tightening cycles and ongoing macroeconomic volatility, bank balance sheets have become more sensitive to interest rate movements, exposing limitations in traditional balance-sheet-based risk management approaches.

Most EMDE banks currently manage interest rate risk using balance sheet strategies, such as issuing short-term or floating-rate loans and funding through time deposits. These strategies can help reduce duration risk and provide some earnings stability, but they offer only partial protection. Limited access to long-term funding and shallow domestic capital markets restrict banks' ability to adjust asset-liability profiles. Consequently, banks mitigate net interest rate exposure by constraining the duration of their loan portfolios. Lending books in EMDEs are generally short in duration, with more frequent repricing compared with developed markets.

Developing accessible and liquid interest rate derivatives (IRD) markets in EMDEs could significantly enhance banks' ability to manage IRRBB. In turn, stronger IRRBB management would bolster financial system resilience and support economic growth. By enabling more effective hedging of interest rate exposures, IRD markets give banks greater flexibility to extend longer-term and fixed-rate financing that is critical for economic development.

The ability to hedge interest rate exposures effectively gives banks the flexibility to extend longer-term credit and offer fixed-rate products, which are critical for corporate planning, housing finance, infrastructure investment and sustainable economic development. By making these forms of financing more accessible and predictable, banks enable businesses to plan with confidence, reduce rollover risks and support projects with extended gestation periods that are vital for long-term investment and development.

This paper argues that building more effective IRRBB management frameworks supported by well-functioning IRD markets is both a financial stability priority and a foundation for sustainable economic progress in EMDEs.

UNDERSTANDING IRRBB IN EMDE BANKS

IRRBB has become a growing priority for banks and regulators in EMDEs. As many of these countries have experienced monetary tightening cycles and persistent macroeconomic volatility, bank balance sheets have become more sensitive to interest rate movements. These dynamics can present significant challenges to financial system resilience, particularly in environments where structural and institutional constraints limit the tools available for effective risk management.

Short-term deposits and shallow derivatives markets make EMDE banks more vulnerable to rate shocks

EMDE banking systems typically rely on a mix of current accounts, demand deposits and time deposits, all of which are relatively short and subject to frequent repricing. While time deposits offer more predictable cashflows than non-maturity deposits, they still provide limited insulation from sustained shifts in interest rates. Access to long-term funding is often constrained and capital markets remain underdeveloped in many jurisdictions, reducing the ability of banks to diversify and extend their funding bases.

The absence of deep and liquid derivatives markets further limits the capacity of banks to manage interest rate exposures. Taken together, short-term deposits and shallow derivatives markets make EMDE banks more vulnerable to rate shocks.. As a result, banks restrict loan provisions to relatively short-dated tenors, thereby passing interest rate and refinancing risks to borrowers. This, in turn, limits the ability of the real economy to access more stable, long-term funding structures.

A sound IRRBB measurement framework is essential for enabling banks to identify and quantify their financial risks and manage them effectively through derivatives and cash market instruments. With robust measurement practices in place, the financial system would become more resilient and bank would be better positioned to provide longer-dated loans to the real economy, thereby reducing its vulnerability to interest rate shocks.

This underscores the importance of developing a sound IRRBB measurement framework in combination with a robust interest rate derivatives market that supports effective management of interest rate risk.

The Basel Committee on Banking Supervision (BCBS) defines IRRBB as "the current or prospective risk to the bank's capital and earnings arising from adverse movements in interest rates that affect the bank's banking book positions. When interest rates change, the present value and timing of future cashflows change. This, in turn, changes the underlying value of a bank's assets, liabilities and off-balance-sheet items and hence its economic value. Changes in interest rates also affect a bank's earnings by altering interest rate-sensitive income and expenses, affecting its net interest income (NII)"[1].

Unlike interest rate risk in the trading book, which is marked to market, IRRBB arises from accrual-accounted exposures, such as loans, deposits and held-to-maturity securities – core elements of traditional banking. Because these positions are not easily adjusted in response to market movements, banks are exposed to structural interest rate mismatches that evolve over time.

IRRBB is typically categorized into three sub-types, each reflecting a distinct mechanism through which interest rate movements can affect a bank's financial position. These risk types capture differences in timing, rate reference and optionality that influence how banking book exposures respond to changes in interest rates.

[1] SRP31 – Interest rate risk in the banking book, Basel Committee on Banking Supervision, Bank for International Settlements, www.bis.org/basel_framework/chapter/SRP/31.htm

Key Types of IRRBB

Gap risk refers to the risk arising from mismatches in the timing of interest rate resets or repricing across banking book instruments. It is driven by differences in the maturity or repricing profiles of assets and liabilities. The impact of gap risk depends on whether changes in the yield curve are uniform across all maturities (parallel shifts) or vary by segment (non-parallel shifts).

Basis risk occurs when instruments with similar tenors are linked to different interest rate benchmarks. Even when their maturities align, discrepancies in the movement of these reference rates can result in unanticipated changes in income or value.

Option risk stems from instruments that include explicit or embedded options, whether in the form of standalone derivatives or features within banking book positions. This includes situations where either the bank or the customer has the right to modify cashflow timing or amount. Option risk can be further classified into automatic option risk (from contractual features such as caps, floors or prepayment clauses) and behavioral option risk (arising from customer-driven decisions that are not contractually fixed but are influenced by market conditions).

To provide a standardized framework for monitoring and managing these risks, the BCBS has formalized the use of two primary metrics for supervisory purposes: the interest rate sensitivity of economic value of equity (EVE) and net interest income (NII). Although banks have used value- and earnings-based measures for decades, the BCBS framework harmonizes their application across jurisdictions.

The interest rate sensitivity of EVE is measured as the change in the present value of a bank's expected future cashflows under a set of prescribed interest rate shock scenarios and via Monte Carlo simulation of a stochastic interest rate process. It captures long-term sensitivity to structural mismatches in the balance sheet. In contrast, the interest rate sensitivity of NII reflects the short-term effect of rate changes on a bank's interest income and expenses, typically over a 12-month horizon.

Together, these measures are intended to provide a comprehensive view of a bank's exposure to interest rate risk from both a capital and earnings perspectives. Basel standards also include supervisory benchmarks, such as a 15% decline in EVE relative to Tier 1 capital, to identify outlier exposures.

While the EVE and NII frameworks form the foundation of international IRRBB standards, their application in EMDEs presents several practical challenges

While the EVE and NII frameworks form the foundation of international IRRBB standards, their application in EMDEs presents several practical challenges. Accurate measurement depends on high-quality data, robust modeling capabilities and well-calibrated assumptions – conditions that may not be met consistently across EMDE banking systems. Behavioral modeling of deposit stability and loan prepayment is particularly difficult in environments where historical data is limited, customer behavior is volatile and macroeconomic conditions change rapidly.

Despite these constraints, EVE and NII risk metrics remain essential tools for understanding and managing IRRBB in EMDEs. However, these metrics must be adapted to reflect local market realities to be effective. This includes adjusting modeling assumptions to reflect customer behavior, improving the granularity and quality of data inputs and enhancing scenario analysis. Strengthening supervisory understanding of these metrics is equally important to ensure meaningful oversight.

In EMDEs where financial systems are especially vulnerable to rate shocks, better measurement of IRRBB is a critical step towards enhancing the resilience of both individual banks and the broader financial system.

CURRENT APPROACH TO INTEREST RATE RISK MANAGEMENT BY EMDE BANKS

Banks in EMDEs primarily manage interest rate risk through balance sheet strategies tailored to their operating environments. In the absence of liquid derivatives markets, most banks tend to structure their assets and liabilities in ways that reduce their exposure to interest rate fluctuations. While this approach has historically provided a measure of resilience, its limitations are becoming more evident in an environment of heightened rate volatility and growing balance sheet complexity.

How Banks in EMDEs are Exposed to Interest Rate Risk

Banks in EMDEs face interest rate risk through multiple channels, each shaped by structural features of their financial systems and macroeconomic conditions.

- Earnings risk (net interest income volatility): When the timing or magnitude of interest rate changes differs between assets and liabilities, banks may face swings in net interest income. For example, if deposit rates rise faster than yields of the loan portfolio, profit margins narrow.
- Funding risk: Many EMDE banks rely heavily on short-term deposits or wholesale borrowings that reprice quickly. In a tightening cycle, competition for funding may force banks to offer higher rates, increasing funding costs. If these increases cannot be passed through to borrowers, margins and earnings come under pressure.
- Valuation risk (economic value of equity): Banks holding long-duration fixed-rate securities, especially government bonds, face mark-to-market losses when rates rise. These losses may not appear on the income statement but can erode capital buffers and investor confidence.
- Asset-liability mismatches: Even with frequent repricing, imperfect alignment between the timing or sensitivity of assets and liabilities can cause temporary imbalances, especially in steep or shifting yield curve environments.
- Credit risk spillovers: Rising interest rates increase debt servicing costs for floating-rate borrowers, raising default risk. As defaults increase, banks face indirect losses through higher provisions and non-performing loans, further affecting income and capital.

Traditionally, banks in EMDEs have sought to minimize the repricing gaps between assets and liabilities. On the asset side, EMDE banks typically concentrate their lending on businesses, with loans that are structured to reprice frequently either through floating interest rates, short maturities or both. This structure allows loan yields to respond more quickly to changes in policy rates, providing a built-in mechanism to adjust income streams and limit exposure to interest rate risk.

On the liability side, many EMDE banks rely heavily on time deposits that bear interest and have defined maturities. Compared to demand deposits, time deposits provide a more stable source of funding, particularly during episodes of financial stress, as early withdrawals are typically restricted or subject to penalties. This stability is particularly valuable in EMDEs, where depositor behavior can be sensitive to macroeconomic shocks. Time deposits also make it easier for banks to align funding maturities and repricing frequencies with those of their loan portfolios.

However, this balance sheet-based strategy has its limitations. As rates rise, funding costs increase, particularly for time deposits. If loan yields do not adjust as quickly due to competition, borrower strain or regulatory constraints, banks may face margin compression, which can erode profitability. Floating rate assets help to offset this to some extent, but funding repricing can still outpace asset repricing.

Banks have a certain level of control over their asset and liability mix through their core lending and deposit activities. They have far less discretion over their holdings of government securities, which are essential for meeting high-quality liquid asset requirements.

In recent years, EMDE banks have increased their holdings of sovereign debt to meet liquidity requirements and absorb higher government issuance. As a result, a larger share of their assets is now sensitive to interest rate movements. At the same time, governments have issued more long-term debt, increasing the average duration of these securities and heightening banks' exposure to market risk[2]. These structural shifts have made active interest rate risk management increasingly necessary.

When interest rates rise, the value of longer-duration securities declines more than the value of shorter-duration securities, generating unrealized losses that can erode capital and constrain lending capacity. This dynamic has become more pressing in recent years, not only in EMDEs. The failure of Silicon Valley Bank in March 2023 demonstrated how inadequate recognition and management of interest rate risk can destabilize an institution, even when regulatory capital ratios appear sound. A stronger focus on IRRBB measurement would have made the underlying vulnerabilities more evident.

Higher interest rates also introduce greater credit risk. As the cost of servicing debt increases, especially on floating-rate loans, borrowers may face repayment strain, leading to rising delinquencies and provisioning needs. While these pressures are typically more acute for weaker or highly leveraged borrowers, they can also affect investment-grade firms during sharp or sustained tightening cycles. This adds a second layer of earnings pressure that balance-sheet repricing alone cannot absorb.

Overall, balance-sheet-based strategies provide EMDE banks with some capacity to absorb interest rate fluctuations, but they remain an incomplete shield. They can help stabilize earnings in the short term, but they leave banks exposed to valuation losses, rising funding costs and credit risk spillovers when rates move sharply.

As balance sheets grow more complex and sovereign exposures expand and lengthen, these vulnerabilities increase and could spill over into banks' lending capacity during periods of interest rate volatility. This underscores the need to look beyond bank-level practices and examine the broader implications of IRRBB for credit provision, sovereign financing and financial stability in EMDEs.

[2] Interest Rate Risk Management by EME Banks, Bank for International Settlements, www.bis.org/publ/qtrpdf/r_qt2309c.htm

WHY IRRBB MATTERS FOR EMDE GROWTH AND STABILITY

IRRBB management is not only a bank-level concern. The way EMDE banks manage this risk shapes how credit flows through the economy and affects both growth and financial stability. When banks rely mainly on balance sheet adjustments, the consequences extend beyond earnings volatility and touch households, firms, governments and markets.

One major constraint is the limited availability of long-term, fixed-rate credit. Because banks depend on short-term or floating-rate instruments, borrowers face greater exposure to interest rate swings. This uncertainty can discourage businesses from making long-term investments, while households struggle to access affordable mortgages or education loans.

Access to long-term, stable financing is essential for economic development. Empirical evidence from World Bank and International Monetary Fund studies shows that when households and firms can secure affordable long-term credit, they invest more in housing, education and business expansion[3]. Governments also rely on stable financing to fund infrastructure, which delivers some of the strongest growth multipliers in EMDEs[4]. Without effective IRRBB management, banks are constrained to short-term or floating-rate lending, shifting volatility onto borrowers and deterring investment.

Weak IRRBB management also reinforces procyclicality. As rates rise or valuation pressures mount, banks often tighten lending standards, reducing credit availability precisely when the economy is slowing. The impact falls most heavily on smaller borrowers, such as small and medium-sized enterprises (SMEs), which lack alternative funding sources and are forced to scale back operations or investment. Larger corporates may hedge offshore or tap international markets, but smaller firms and households remain fully exposed to volatility, widening inequalities in financial access.

In addition, IRRBB vulnerabilities weaken monetary policy transmission. In many EMDEs, changes in policy rates do not pass through smoothly to lending and deposit pricing. Asset-and-liability management constraints, foreign currency exposures and limited hedging tools play an important role. Many banks fund themselves with short-term or FX-denominated liabilities, while lending occurs in local currency and at longer maturities. Fully adjusting loan or deposit rates can widen duration gaps, amplify currency mismatches or increase borrower credit risk, so banks often reprice only partially or with delays.

At the same time, concentrated banking sectors and strong profitability in some markets reduce competitive pressure to reprice quickly, further dampening the responsiveness of rates to monetary policy decisions. When these frictions persist, policy signals become less predictable and central banks have greater difficulty steering financial conditions and monitoring the economy.

Sovereign financing is another area of vulnerability. Governments seeking to extend debt maturities depend heavily on domestic banks to absorb longer-term bonds. Without the ability to hedge the associated duration risk, banks may hesitate to hold these securities, leading to higher borrowing costs or weaker demand. This reluctance also limits the development of reliable local yield curves, which are crucial for pricing infrastructure projects, corporate borrowing and broader capital market deepening.

[3] Global Financial Development Report 2015-2016 : Long-term Finance, World Bank Group, documents.worldbank.org/en/publication/documents-reports/documentdetail/955811467986333727

[4] World Economic Outlook: Legacies, Clouds, Uncertainties, Chapter 3: Is It Time for an Infrastructure Push? The Macroeconomic Effects of Public Investment, International Monetary Fund, www.imf.org/en/Publications/WEO/Issues/2016/12/31/Legacies-Clouds-Uncertainties

On top of this, IRRBB vulnerabilities can amplify systemic stress. Sharp increases in interest rates may force banks into defensive deleveraging, leading to bond selloffs, tighter credit conditions and liquidity pressures in already shallow markets. Concentrated exposures to sovereign debt can magnify these dynamics, creating destabilizing feedback loops.

Enhancing banks' ability to measure and manage IRRBB is not only a prudential requirement but a macroeconomic necessity. For EMDEs, improved balance sheet practices and the gradual development of derivatives markets will support sovereign financing, sustain credit provision and strengthen overall financial system resilience and growth.

ENHANCING EMDE INTEREST RATE RISK MANAGEMENT WITH INTEREST RATE DERIVATIVES

The development of robust local IRD markets could significantly strengthen the ability of banks in EMDEs to manage IRRBB. Unlike balance-sheet-based strategies, which require reshaping the composition of tenors of assets and liabilities, derivatives allow banks to hedge exposures more precisely without restructuring their core portfolios. This flexibility is particularly valuable in EMDEs, where structural funding constraints and volatile interest rate environments can make it more difficult to balance risk management objectives with the needs of customers and sovereign issuers.

Access to a broader range of IRD instruments, such as interest rate swaps, basis swaps, interest rate options and futures, would enable banks to tailor their hedging strategies to their specific balance sheet structures and market conditions. More effective hedging tools can enhance earnings stability, reduce capital volatility and enable banks to offer longer-term, fixed-rate lending, benefiting both borrowers and the broader economy.

The following examples illustrate how IRD can be used to manage key channels of interest rate risk, strengthen balance sheet resilience and support broader financial and economic stability.

Hedging Duration Risk on Government Bond Holdings

In many EMDEs, domestic banks are the primary buyers of government securities, often driven by regulatory liquidity requirements and the need for safe, local currency investments. Governments frequently issue longer-term fixed-rate bonds – such as 10- or 15-year maturities – to reduce rollover risk and extend their debt profiles. While these securities provide predictable income, they also carry significant duration risk. If interest rates rise, bond prices fall, creating unrealized losses that can weaken bank capital positions and undermine investor confidence.

An interest rate swap can be used to reduce this risk. By entering into a fixed-for-floating swap, the bank exchanges the fixed coupon payments from its bond portfolio for floating-rate payments tied to a short-term benchmark. This effectively transforms the fixed-rate exposure into a floating-rate one, bringing asset cashflows into closer alignment with the bank's short-term funding profile.

This hedging allows banks to hold longer-term government bonds without being fully exposed to adverse rate movements. It also reduces the yield premium that banks would otherwise demand for bearing duration risk they cannot manage. As a result, governments can issue longer-maturity bonds at more sustainable costs, while banks can meet regulatory liquidity requirements without taking on excessive interest rate risk. This supports both financial stability and sovereign debt management.

Supporting Long term Infrastructure Lending

Infrastructure projects, such as roads, power plants and water treatment facilities, often require large, long-term financing commitments, typically in the form of fixed-rate loans to provide stability for the borrower's project cashflows. In EMDEs, banks are often the primary financiers of these projects. However, if funded primarily with short-term, floating-rate deposits, offering long-term fixed-rate loans exposes banks to significant IRRBB. As funding costs rise, the fixed interest income from these loans remains unchanged, squeezing net interest margins.

By entering into a fixed-for-floating interest rate swap, a bank can convert the fixed interest cashflows from the infrastructure loan into floating-rate income, aligning asset cashflows with the bank's floating-rate liabilities. This brings the repricing profile of assets and liabilities into closer alignment, reducing earnings volatility and mitigating the risk of margin compression in a rising rate environment.

Another way to manage this risk is through an interest rate option strategy. The bank can purchase an interest rate cap, paying an upfront premium in exchange for protection against funding rates rising above a predetermined strike level. If market rates climb above that level, the cap seller compensates the bank for the excess, offsetting the higher funding costs and preserving margins. If rates remain below the strike, the cap is never triggered and the bank benefits from lower funding costs throughout the life of the loan.

The benefits of using interest rate derivatives extend well beyond the bank's own balance sheet. For borrowers, they provide access to stable, long-term fixed-rate financing, enabling better project planning and reducing uncertainty over future debt servicing. When banks can hedge the underlying interest rate exposure, they do not need to incorporate a risk premium into loan pricing. As a result, borrowing costs remain lower than they would be in the absence of hedging tools. Predictable and affordable financing is particularly important for large-scale infrastructure investments, where revenue streams often take years to develop.

At the macroeconomic level, the ability to hedge with IRD ensures infrastructure projects can proceed without being constrained by banks' IRRBB exposures. Without such tools, banks may opt for shorter-term or floating-rate loans, shifting interest rate risk onto the borrower. This can lead to unpredictable financing costs, discourage long-term investment and, in some cases, render projects financially unviable.

While these examples address long-term structural mismatches in bank balance sheets, IRD instruments are equally valuable for managing shorter-term and tactical exposures. In EMDEs, funding markets can be volatile and multiple interest rate benchmarks often coexist. Banks may face repricing gaps when liabilities reset more quickly than asset yields, or basis risk when asset-and-liability rates are tied to different benchmarks. The following examples show how derivatives can address these sources of earnings volatility and funding cost uncertainty.

Reducing Benchmark Mismatch Risk with Basis Swaps

In some EMDEs, banks' assets and liabilities are linked to different interest rate benchmarks. For example, loans may be priced using the yield on short term government securities, while funding costs may be tied to a central bank policy rate or an interbank lending rate. Although these benchmarks may generally move in the same direction, they often diverge in magnitude due to market segmentation, liquidity shifts or changes in monetary policy operations. This mismatch creates basis risk, where even parallel rate moves leave the bank exposed to changes in the spread between the two benchmarks.

A basis swap enables the bank to exchange interest payments linked to one benchmark for payments linked to another. For instance, a bank with assets priced using a local term interbank rate and liabilities linked to the overnight policy rate could use a basis swap to align cashflows to the same reference rate. This reduces earnings volatility caused by fluctuations in the spread between benchmarks, improving the predictability of margins.

Managing basis risk is particularly important in EMDEs, where liquidity conditions can change abruptly and cause benchmark spreads to widen, especially during periods of market stress. By stabilizing earnings and protecting against sudden swings in relative rates, basis swaps help banks maintain consistent pricing for borrowers and safeguard profitability.

Managing Embedded Option Risk in Retail Deposits

In many EMDEs, retail deposits include features that give customers flexibility to withdraw or reallocate funds with little or no penalty. During periods of rising interest rates, depositors may migrate balances from low yield demand deposits into higher yield time deposits or withdraw funds altogether to seek better returns. This behavioral shift shortens the effective maturity of the deposit base and can raise funding costs abruptly, creating unexpected pressure on net interest margins.

Interest rate options provide a way to manage this embedded optionality. For example, a bank anticipating significant migration to higher rate products during a tightening cycle could purchase an interest rate cap to protect against a sharp rise in funding costs. If market rates move above the strike, the cap pays out, offsetting the additional expense and preserving margins. In other cases, swaptions (options on interest rate swaps) can provide flexibility by allowing the bank to initiate a hedge only if rates move in a way that triggers the expected deposit shift.

These tools allow banks to address the uncertainty created by customer driven optionality without locking into hedges prematurely. By stabilizing funding costs in the face of deposit migration, banks can maintain consistent loan pricing and avoid passing funding volatility directly to borrowers, supporting both earnings stability and customer confidence.

Managing Prepayment Optionality on the Asset Side

Borrowers often have the ability to repay or refinance loans before maturity, particularly when contracts lack make-whole provisions or early repayment charges. When interest rates fall, many retail and small- and medium-sized enterprise borrowers exercise this option by replacing higher-rate loans with cheaper credit. This behavior shortens the effective duration of banks' loan portfolios and reduces interest income, especially for fixed-rate assets.

Prepayment risk also introduces negative convexity: expected cashflows shorten when rates decline, limiting the benefit banks receive from lower funding costs. Because this risk cannot be managed through balance sheet strategies alone, banks incorporate a premium into initial loan pricing to compensate for the potential loss of higher-yielding assets. This raises the cost of long-term credit for households and businesses.

Interest rate options can help to mitigate this exposure. A receiver swaption, for example, gives the bank the right, but not the obligation, to enter into a swap that offsets the yield lost when borrowers prepay. If rates fall enough to trigger widespread prepayments, the option can be exercised. If not, it simply expires, allowing the bank to avoid unnecessary hedging costs.

By managing asset-side optionality more effectively, banks can offer longer-term fixed-rate loans at more sustainable prices. This supports investment, enhances credit availability and strengthens overall financial resilience.

These examples illustrate how derivatives can help banks in EMDEs to address core sources of interest rate risk. Instead of relying solely on structural adjustments to the balance sheet, these instruments offer a more flexible and targeted approach to managing exposures. Table 1 summarizes the key differences, contrasting the limitations of balance-sheet-driven strategies with the enhanced capabilities and broader benefits that more developed IRD markets can provide.

Table 1: Managing IRRBB in EMDEs: Balance Sheet Strategies vs. Hedging with Interest Rate Derivatives

Dimension	Using Balance Sheet Strategies	Using Interest Rate Derivatives
Flexibility	Requires restructuring portfolios to adjust risk; constrained by asset-liability repricing.	Allows risk to be managed without altering core portfolios; separates product design from risk management.
Loan Offerings	Leads to a bias towards short-term or floating-rate loans; limits ability to offer long-term credit.	Enables banks to hedge duration risk and safely extend long-term, fixed-rate loans at better pricing.
Government Securities	Creates valuation risk when holding long-duration, fixed-rate bonds; may dampen demand for sovereign debt.	Enables banks to hedge duration risk on bond holdings; supports sovereign debt issuance and local market development at more efficient pricing. Enhances liquidity of the secondary market.
Earnings Stability	Focuses on net interest income but remains exposed to valuation losses and funding cost spikes.	Helps stabilize both net interest income and economic value of equity; reduces earnings and capital volatility.
Systemic Impact	Can contribute to procyclical credit tightening during rate shocks; constrains credit supply.	Helps sustain credit through rate cycles; strengthens financial stability and economic resilience.
Implementation Speed	Requires time to adjust loan or deposit structures; limited agility in responding to market shifts.	Allows for rapid execution and adjustment of positions in response to changing market conditions.
Regulatory Alignment	Meets minimum prudential standards but may fall short of managing economic value of equity sensitivity; complicates compliance with Basel Committee IRRBB standards.	Actively manages both net interest income and economic value of equity; supports alignment with evolving regulatory expectations.

The ability to manage IRRBB with derivatives not only improves earnings and capital resilience for banks but also supports broader macroeconomic goals. The interconnected nature of EMDE financial institutions and markets means strengthening IRRBB management has benefits far beyond the banking sector. More resilient banks can sustain lending to households, SMEs and corporates, even during periods of interest rate volatility, supporting economic activity and investment.

By enabling banks to manage the duration risk of holding long-term government bonds, derivatives encourage greater demand for sovereign issuance and support the creation of a reliable, long-term yield curve in local currencies. In turn, this helps governments finance development priorities more sustainably, while also attracting a more diverse investor base.

To unlock these benefits, EMDEs will need to continue developing local IRD markets and building institutional capacity. This includes expanding access to a broader range of hedging instruments, strengthening risk governance frameworks and ensuring clear regulatory guidance. Even incremental steps towards more functional IRD markets could meaningfully enhance financial stability and foster more resilient economic growth in EMDEs.

COUNTRY EXPERIENCES IN STRENGTHENING IRRBB FRAMEWORKS

Regulators and supervisors across EMDEs are placing increasing emphasis on the management of IRRBB. While most jurisdictions use the Basel framework as a reference point, implementation has taken different forms depending on supervisory capacity, data quality and the structure of local financial markets.

Common themes are evident across these reforms. Authorities are introducing clearer requirements for the measurement of earnings and capital sensitivity, mandating disclosure and reporting through standardized templates and embedding IRRBB into broader risk management frameworks, such as the Internal Capital Adequacy Assessment Process (ICAAP). Governance expectations have also been strengthened, with boards required to define risk appetite statements and approve limits, while supervisors are relying more heavily on stress testing and scenario analysis to monitor systemic vulnerabilities.

Early experiences have highlighted several lessons. Many supervisors report challenges in modeling non-maturity deposits. Behavioral assumptions, such as stability, repricing behavior and implied duration, vary widely across institutions and can significantly influence reported exposures.

Differences in data availability, system capabilities and modeling expertise have resulted in heterogeneous practices, underscoring the need for clearer guidance and stronger supervisory review. Implementation has also revealed gaps in banks' internal measurement systems, particularly in capturing optionality embedded in retail products and integrating IRRBB into broader strategic decision-making.

Despite these challenges, implementation has generally strengthened risk awareness and balance sheet management. In several jurisdictions, supervisory expectations have encouraged banks to improve internal transfer pricing, refine their measurement of repricing mismatches and incorporate interest rate risk more systematically into product pricing and strategic planning. While IRRBB reforms alone have not been sufficient to transform market structures, they have supported the gradual development of hedging practices and contributed to deeper demand for IRD where markets exist or are emerging.

POLICY PRIORITIES FOR STRENGTHENING EMDE MANAGEMENT OF IRRB

Strengthening IRRBB management in EMDEs is not just a matter of regulatory compliance – it is essential for sustaining credit provision, supporting sovereign financing and enabling long-term investment. Without robust tools to measure and manage interest rate risk, banks may be forced into procyclical behavior (tightening credit or shortening maturities during shocks) that amplifies volatility and constrains economic growth. A forward-looking policy agenda can help build resilience across financial systems and ensure IRRBB management contributes directly to broader development goals.

Strengthening IRRBB management in EMDEs is not just a matter of regulatory compliance – it is essential for sustaining credit provision, supporting sovereign financing and enabling long-term investment

Development of Local IRD Markets

A central priority is the development of accessible and liquid local IRD markets. Derivatives allow banks to hedge exposures with precision, separating product design from risk management and easing the balance sheet constraints that come from reliance on short-term deposits and limited funding diversification. Well-functioning markets make it easier for banks to extend longer-term credit, support infrastructure and corporate investment and hold sovereign debt without taking on unmanageable duration risk. They also help smooth earnings through rate cycles and reduce the risk of sudden credit tightening.

Building effective IRD markets requires coordinated action across several fronts. Authorities need to establish clear legal and regulatory frameworks, ensure enforceability of contracts and close-out netting, and promote the use of standardized documentation and collateral agreements. Market infrastructure is equally important, including predictable sovereign debt issuance to anchor benchmark curves, reliable reference rates with transparent fallback language, and efficient repo and collateral frameworks with central bank eligibility where appropriate.

Incremental progress on these building blocks can make a meaningful difference. Even before markets reach full depth and sophistication, improvements in contract certainty, reference rate reliability and collateral practices can expand banks' ability to manage IRRBB and encourage greater participation. Over time, additional steps, such as introducing central clearing and trade reporting, can further enhance safety, transparency and systemic resilience, while also supporting sovereign financing, deepening capital markets and strengthening overall financial stability.

Adoption and Proportionate Application of International Standards

Another priority is the adoption and proportionate application of international standards. Many EMDEs are at different stages of implementing the Basel Committee's IRRBB framework and full replication may not be realistic. However, requiring banks to assess exposures through both earnings- and value-based metrics, conduct standardized stress scenarios and integrate IRRBB into internal capital adequacy assessment processes creates a consistent baseline for supervisory oversight. Applying proportionality ensures smaller institutions are not overburdened, while systemically important banks meet higher expectations.

Investment in Data, Modeling and Supervisory Capacity

Investment in data, modeling and supervisory capacity is essential. The accuracy of IRRBB measurement depends on robust behavioral assumptions for deposits, prepayments and loan repricing – factors that can vary widely across EMDEs. Improved data collection, validation and stress testing will help banks and supervisors anticipate vulnerabilities before they materialize. Capacity-building initiatives, including training programs and peer reviews, can support supervisors in embedding IRRBB assessments within broader supervisory review frameworks.

Regional Cooperation and Sequenced Reform

Progress will also depend on effective regional and international cooperation. For smaller or more fragmented markets, coordinated legal frameworks, shared benchmarks and cross-border clearing or settlement arrangements can help create the scale and consistency needed for robust IRD activity. Equally important is the sequencing of reforms. Policymakers should focus first on building the legal and market foundations, such as contract enforceability, reference rate reliability and supervisory capacity, before moving towards more complex instruments and regulatory expectations. Taking a phased approach will ensure that reforms are durable, achievable and aligned with local market realities.

Governance and Macroprudential Oversight

IRRBB management should be embedded at the level of individual banks and within broader financial stability frameworks. At the institutional level, strong governance, including board-approved risk appetite statements and rigorous ICAAP submissions, will ensure that interest rate risk is actively monitored and managed.

From a financial stability perspective, tracking concentrations like exposures to long-duration sovereign bonds, encouraging diversified funding, maintaining countercyclical buffers and using forward-looking scenario analysis can help prevent vulnerabilities from building and reduce the likelihood that rate shocks trigger abrupt contractions in credit. By linking bank-level governance with system-wide oversight, EMDEs can ensure that IRRBB management supports resilient intermediation and sustainable economic growth.

CONCLUSION

Managing IRRBB is a critical challenge for EMDEs. Balance sheet strategies provide some protection, but in today's volatile monetary environment, they leave banks exposed to margin compression, valuation losses and credit risk spillovers. Without stronger tools, these vulnerabilities will persist and could amplify future shocks.

Well-functioning interest rate derivatives markets offer a path to greater resilience. By enabling banks to hedge their exposures with precision, they help stabilize earnings, safeguard capital and support the extension of long-term credit at better levels. This, in turn, underpins investment in housing, infrastructure and enterprise growth – the building blocks of sustainable development.

Progress will take time, but delay carries costs. Even incremental steps towards deeper markets, clearer regulation and stronger oversight can deliver meaningful benefits. Gradual reforms can help EMDEs reduce vulnerabilities and build more resilient financial systems, even before markets reach full depth.

Strengthening IRRBB management in EMDEs is not just a matter of regulatory compliance. It is essential for sustaining credit provision, supporting sovereign financing and enabling long-term investments that boost capital formation and enhance economic growth.

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FOR QUESTIONS ON ISDA RESEARCH, PLEASE CONTACT:

Olga Roman
Head of Research
oroman@isda.org

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Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has more than 1,000 member institutions from 78 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: www.isda.org. Follow us on LinkedIn and YouTube.