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To: Chair, Board of Directors
Chief Executive Officer
Chief Financial Officer
Each Farm Credit System Bank, Association, and Service Corporation

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Subject: Interest Rate Risk Management

The Farm Credit Administration (FCA or we) is issuing this booklet¹ to provide clarification and guidance to Farm Credit System (System) institutions on an effective interest rate risk (IRR) management framework. This booklet does not constitute new guidance; rather, it communicates long-standing basic principles of sound IRR management. It applies to all System banks and associations, and to any service corporations or other System institutions holding interest rate sensitive assets or liabilities creating an exposure to IRR as defined herein.² The booklet describes the IRR governance, policies and procedures, strategies, measurement processes, internal controls, and staffing that System institutions should have in place to manage IRR. It also clarifies expectations on how IRR programs at System institutions must be commensurate with their level of risk exposure as required by FCA regulation.³

IRR is defined as the risk that interest rate changes could adversely impact an institution's financial condition and performance. It is generally measured as the sensitivity of an institution's earnings and market value of equity (MVE - defined in attachment) to changes in interest rates.

This booklet provides guidance on how to address IRR management requirements in FCA regulations. Section [615.5180](#) describes the requirements for IRR management at banks. Section [615.5182](#) requires associations and any other System institutions with IRR that could lead to significant declines in net income or market value of capital to comply with § [615.5180](#) and establish an IRR management program commensurate with the level of IRR exposure. In addition, § [615.5200\(c\)\(7\)](#) requires that all System institutions consider the potential impacts of IRR in developing their capital adequacy plans.

FCA's IRR management expectations differ depending on the nature, complexity, and materiality of IRR. However, each institution should have processes sufficient to measure and manage its unique risks.

Key terms, as used in the context of this booklet, are defined in the attachment.

¹ This booklet replaces BL-012 Asset/Liability Management Practices, which is rescinded.

² This booklet does not apply to the Federal Agricultural Mortgage Corporation (Farmer Mac). The agency's expectations for IRR management at Farmer Mac were communicated in BL-071 – Interest Rate Risk Management Guidance for Farmer Mac, published on March 14, 2019.

³ Section 615.5180(a) requires the development, implementation, and effective oversight of an IRR management program tailored to the needs of the institution.

I. Governance and oversight

Institutions should have a sound governance framework for managing IRR. The board and senior management need to fully understand IRR sources and exposures, establish risk limits, and ensure IRR is consistent with the board's risk tolerance and the institution's risk-bearing capacity. This is accomplished by the following:

1. Establishing policies, procedures, and strategies for managing IRR
2. Allocating sufficient resources and assigning responsibilities for IRR management
3. Establishing processes for identifying, measuring, monitoring, controlling, and reporting IRR
4. Creating a system of internal controls, including audits and reviews, to ensure the integrity of the IRR measurement and management processes

Board members are not expected to be IRR experts, but they do need to understand it well enough to meet their fiduciary duties and responsibilities for oversight. At institutions with significant IRR (defined in the attachment), board members should obtain periodic training to understand IRR and meet their responsibilities.

We expect institutions with significant IRR to establish an asset/liability management committee (ALCO) to oversee IRR management. ALCO members should include senior managers and decision-makers from each of the institution's major functions that can directly or indirectly influence IRR exposure. The ALCO should actively monitor the structure of the balance sheet and establish strategies and controls that maintain IRR exposures within acceptable operating ranges as defined by the committee, and board limits. A committee charter should exist defining overall purpose, authorities, responsibilities, membership, quorum requirements, meeting frequency, and requirements to record meeting minutes and report committee activities to the board (or designated board committee).

II. Policies and procedures

As outlined in § 615.5180(c), the board and senior management must adopt policies and procedures that provide direction and limits on the nature and amount of IRR the institution may assume. We expect policies and procedures to be reevaluated and revised as necessary, commensurate with the institution's level and nature of IRR exposure.

IRR policies at all System institutions should address, at a minimum, the following:

1. Purposes and objectives of IRR management.
2. A description of the board's risk tolerance or risk appetite.
3. Requirements to measure and report to the board and management the potential impact of interest rate changes on earnings at least annually.

4. Quantitative limits on the impact of a ± 200 basis point (bp) parallel, instantaneous and sustained interest rate shock on earnings.⁴
5. Requirements for IRR model management and validation, consistent with the institution's overall model risk management framework and sound business practices.⁵
6. Delegations of authority, including authorities retained by the board and approvals required for policy exceptions.
7. Reporting requirements.
8. Audit and review coverage.

Institutions with significant IRR should further expand board IRR policies to address the following:

9. An IRR governance framework, including the IRR management and decision-making process.
10. Requirements to identify and measure all significant sources of IRR.
11. Requirements to measure and report to the board and management the potential impact of interest rate changes on earnings at least quarterly.
12. Quantitative risk limits tailored to the institution's unique IRR exposures (if not addressed through the limits on parallel interest rate shock results). For example, if the institution is exposed to significant basis risk, policies should establish limits on this risk. If the institution purchases loans or investments at premium prices, the policy should establish limits on premium risk. The limits should ensure risks to earnings are maintained at an acceptable level.
13. Permissible hedging strategies and instruments, including related documentation and control requirements.

Board IRR policies at banks and block-funded associations (defined in the attachment) must address risk to MVE.⁶ In addition, associations that pursue strategies that could threaten MVE and long-term earnings capacity under certain interest rate scenarios should also expand policies to address MVE risk.⁷ More specifically, policies should address the following:

⁴ IRR policies may specify a substitute for the -200 bp shock during low interest rate environments. The board may consider using the FCA Call Report instructions which establish standardized substitutes to the -200 bp shock for call reporting purposes.

⁵ Management and validation of the IRR model may be addressed in either the model risk management policy or the IRR policy.

⁶ Section 615.5180(c)(2) requires policies and procedures to identify and analyze the causes of risks within the balance sheet, while § 615.5180(c)(3) requires the measurement of the potential effect of these risks on both projected earnings and market values (i.e., "MVE" as discussed in this booklet).

⁷ Associations that concentrate equity in funding the longest-term assets, or mismatch funds transfer pricing (FTP) and options in a manner that results in significant intermediate-term or long-term mismatches, are expected to measure and manage MVE risk. Full MVE simulation using sophisticated and complex models may not be required if sources of MVE risk are limited and clearly defined, and risk can be reliably measured and effectively managed using an alternative approach. Any alternative approaches to MVE risk measurement should be well documented and defensible, and exposures must still be subject to board limits.

14. Requirements to measure and report to the board and management the potential impact of interest rate changes on MVE at least quarterly.
15. Quantitative limits on the impact of a ± 200 bp parallel, instantaneous and sustained interest rate shock on MVE.⁸

We expect risk limits established in policies to be set at levels that do not unduly threaten earnings or MVE. Periodic policy reviews should ensure risk limits remain consistent with the board's risk appetite as well as any changes in the institution's risk-bearing capacity. At institutions that measure MVE, the periodic reviews should also consider the MVE/Book Value of Equity ratio (MVE/BVE ratio) and adjust risk limits if necessary to prevent this ratio from declining to an unsatisfactory level. Limits established in relation to net interest income should not expose bottom-line net income to excessive risk.

Management's written operating procedures should translate the board's policies and risk tolerance into operating standards that are well understood by staff and are consistent with the board's intent. We expect procedures to be sufficiently detailed to communicate management's expectations, ensure consistency and continuity of processes, and provide the criteria for holding staff accountable. Procedures should address each key IRR measurement, management, and oversight function. At institutions with significant IRR, procedures should establish precautionary thresholds (or targeted operating ranges) for each major IRR source, including actions that will be taken if those thresholds are breached. Such thresholds are more conservative than board policy limits. In addition, procedures or other types of management directives should assign responsibilities for each key function.

III. IRR strategies

FCA expects institutions to develop strategies for managing and mitigating IRR sufficient to maintain risk at an acceptable level. Some degree of IRR is a normal part of a financial institution's operations, but excessive IRR can threaten financial condition and performance.

Strategies should be consistent with the nature and complexity of the institution's business model and balance sheet composition. For example, associations that have a policy, strategy, and practice of fully match-funding assets through the funding bank's funds transfer pricing program (FTP – defined in the attachment) may not need to identify any additional IRR strategies or risk-mitigating steps. Other institutions may need strategies for managing and controlling each significant source of IRR. Strategies should be tailored to the unique risks, range of business activities, operating environment, and challenges facing the institution. Considerations include the following:

1. Strategies should be effective at maintaining IRR exposures within the board's IRR limits and risk appetite. Excessive IRR exposure, or exposure that is volatile and varies significantly across measurement periods, generally indicates strategies are inadequate.
2. The risks/rewards of significant IRR strategies should be periodically analyzed, quantified, and reported to the ALCO and board. These analyses should identify how risk/reward has changed over time and in relation to a neutral position (i.e., fully

⁸ As discussed in footnote 4, IRR policies may specify a substitute for the -200 bp shock during low interest rate environments.

matched position) and other feasible strategy alternatives. The analyses should determine if strategies continue to accomplish intended objectives.

3. Strategies should consider and control risks to both earnings and MVE (reducing risk to earnings can increase risk to MVE, and vice versa), and be periodically reassessed as economic and interest rate conditions change.
4. The capacity to generate acceptable overall earnings should not be overly reliant on IRR positions and strategies that are vulnerable to changing market conditions.
5. Major changes in IRR strategies and new business initiatives that affect IRR should be proposed to and approved by the ALCO before implementation. Proposals should address the impact on IRR, ability to measure and manage IRR, processes used to control IRR, and cost of measuring and managing the additional risks.
6. Using derivative instruments could be an effective strategy for hedging or mitigating IRR. Hedging with derivatives is a potentially complex activity that can have unintended consequences, including increasing IRR or compounding losses if used incorrectly. Thus, institutions using derivatives must have the necessary knowledge and expertise in these instruments. In addition, the board and senior management should understand the derivative strategy, including potential risks and benefits.

IV. IRR measurement

System institutions must have processes to accurately measure IRR.⁹ IRR measurements are significantly impacted by the data available and used for analysis, the model employed, modeling assumptions, and the types of interest rate scenarios considered. Accordingly, a sound IRR governance framework should address these factors. Factors key to measuring IRR include the following:

1. The IRR model used should be sufficient to measure the institution's unique risks as well as compliance with limits in policies and procedures. The type and sophistication of the model needed depends on the complexity and nature of the institution's risk profile. For example, an association that uses the bank's wholesale FTP rates to match-fund assets and position equity proportionally across the balance sheet might use a relatively noncomplex spreadsheet or financial forecasting application to measure risks. An institution with significant IRR may need a much more sophisticated and specialized model. Despite varying levels of sophistication and complexity, all institutions should have a model that captures relevant and appropriately detailed data, provides a reliable estimate of IRR exposure, and is capable of measuring risks from all sources of IRR significant to the institution.
2. We expect model risk associated with measuring IRR to be managed consistent with the institution's overall model risk management framework, which should adhere to sound business practice guidelines for model risk management, validation, and related internal controls.¹⁰

⁹ Section 615.5180(a) requires risk management processes to effectively measure IRR exposures.

¹⁰ Sound business practice guidelines may include broadly accepted industry standards promulgated by trade groups, professional organizations, or industry leaders with subject matter expertise in model risk management; previously issued and broadly adopted guidance from the other financial regulators; and applicable Systemwide guidance issued by FCA.

3. If measurement of the sensitivity of earnings to IRR assumes a dynamic balance sheet, then risk should also be measured assuming a static balance sheet to provide the board and senior management a complete understanding of IRR exposure. This is especially important if dynamic balance sheet assumptions include management's expected responses to interest rate changes or otherwise have the potential to mask IRR, or if changes in dynamic assumptions prevent an understanding of IRR trends.¹¹
4. The types of interest rate scenarios used should be tailored to measure the institution's unique IRR sources. At minimum, FCA expects institutions to use parallel interest rate shock scenarios to measure IRR. Other types of scenarios should be added when needed. For example, institutions may also need to measure the impact of basis shocks, nonparallel interest rate shocks, lags in interest rate adjustments, and other scenarios depending on the institution's specific sources of IRR. At institutions with complex IRR exposures where it is difficult to identify all sources of IRR, a range of scenarios should be used to fully identify and measure all risks.
5. The severity of interest rate scenarios should be sufficient to measure the institution's IRR. The assumed changes in interest rates should be meaningful relative to the institution's IRR sources, logically defensible, and supportable. At a minimum, we expect parallel interest rate shocks measuring the potential impact of a ± 200 bp change in rates. More severe shocks, such as ± 400 bp, should be measured at institutions with significant IRR. Such severe shocks may capture unique risks like those caused by options in the balance sheet. Basis risk scenarios should include severe yet plausible shocks that exceed normal historical volatility. IRR measurements of extreme events should also be considered as they can provide important insights into balance sheet positions and risks.
6. At institutions with significant IRR, FCA expects management to maintain a formal process to periodically review, recalibrate, and approve changes to assumptions and any sub-models or functions used to derive assumptions (e.g., prepayment models). Testing the sensitivity of modeled results to key assumptions is an important part of this process. Sensitivity testing identifies the potential impacts if assumptions prove incorrect or diverge significantly from expectations and historical behavior. Testing the model's sensitivity to various assumptions heightens management's awareness of the potential risks and risk mitigation strategies that may be needed. This can also identify the assumptions that should receive the most attention in model validation.
7. The time horizon used in IRR measurement should be sufficient to capture significant IRR exposures to earnings. At a minimum, we expect IRR measurements assessing the impact of interest rate changes on earnings over the next 1-year period. However, such a short-term horizon will not capture the impact of any intermediate-term and long-term mismatches. Such exposures can arise from concentrating most equity to fund intermediate or longer-term assets, and mismatching the maturity, repricing, or option characteristics in intermediate or longer-term assets and liabilities. Institutions with significant IRR should supplement the 1-year measurement with projected exposures over longer time frames. In addition, to

¹¹ Static and dynamic balance sheet assumptions are defined in the attachment. Comparisons of static to dynamic measurements of earnings sensitivity may not be necessary if reporting to the board and senior management routinely includes analysis detailing the impacts of dynamic assumptions (and changes in assumptions) on IRR measures. Reporting should support that dynamic assumptions are not masking the level or trend in reported IRR.

understand how risk evolves, institutions should measure the sensitivity of earnings to IRR for each 12-month period over the measurement horizon (as opposed to cumulative impact).

V. Internal controls

FCA expects institutions to maintain strong internal controls over IRR management processes. A strong internal control structure is vital to IRR measurement and management. An effective system of controls includes the enforcement of official lines of authority and appropriate separation of duties. Additionally, audit and review are key elements of the control process.

If the institution has significant IRR, then those responsible for measuring IRR should be independent from those who take or manage risks. This includes those that develop IRR strategies as well as those who make or carry out decisions that directly affect the structure and types of assets, liabilities, and financial positions of the institution. The individuals responsible for taking or managing risks should not be in a position to influence IRR model assumptions and risk measurement results, assess compliance with policy, or report results of strategies to the board. If full separation of these duties is not practical, independent controls should exist that ensure IRR measurement and reporting are accurate and unbiased.

A qualified internal audit or outside independent party should review the adequacy of IRR measurement and management processes. The scope, depth, and frequency of audits and reviews should be commensurate with the complexity and materiality of IRR. Areas that should be considered in the scope of audit and review include the following:

1. IRR-related policies and procedures
2. Compliance with policies, procedures, and FCA regulations, and adherence to sound business practices
3. IRR strategies
4. IRR model, particularly controls over model reliability and accuracy, and consistency with model governance requirements in the institution's model risk management framework
5. IRR measurements and interest rate scenarios, including an assessment of whether they adequately capture and measure all significant IRR sources
6. Internal controls, including delegated authorities, separation of duties, review and approval processes, management oversight committees, and staffing
7. Board and management reporting on IRR

VI. Staffing

Institutions should allocate sufficient staffing resources to IRR measurement and management, commensurate with the nature and complexity of IRR. Staff should have the necessary technical and IRR management skills to fulfill their assigned responsibilities and be provided with ongoing training to maintain those skills. An association that uses the funding bank's FTP processes to match fund the balance sheet may be able to eliminate complex exposures, but sufficient skills should still exist to accurately measure IRR and ensure risks are eliminated through match-funding. No institution should increase the complexity of IRR without ensuring it has the staffing resources and expertise necessary to effectively measure and manage the new risks. In addition, key person dependency risks should be identified and mitigated in a timely manner. Potential backup for key personnel should be identified through succession planning and cross-training.

VII. Additional guidance

The basic principles of sound IRR management discussed in this booklet are largely consistent with those previously published by the other financial regulators.¹² System institutions with significant IRR would benefit from review of the 2010 [Interagency Advisory on Interest Rate Risk Management](#), along with the subsequent 2012 issuance of [Frequently Asked Questions](#) (FAQs).

If you have questions about this booklet, please contact any of the following FCA staff members:

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¹² For example, Federal Reserve Letters SR 10-1, January 11, 2010, and SR 12-2, January 13, 2012 describe basic principles of sound IRR management. The financial regulators that were involved with issuing this interagency guidance were the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the National Credit Union Administration, the Office of the Comptroller of the Currency, the Office of Thrift Supervision, and the Federal Financial Institutions Examination Council State Liaison Committee. Federal Reserve Letter SR 11-7, April 4, 2011, describes sound principles of model risk management.

Attachment

These key terms are used in this booklet to mean the following:

Funds transfer pricing (FTP): FTP refers to bank processes for determining wholesale rates charged on association direct loans. Under this process, System banks determine a distinct wholesale funding rate for each association loan to a retail customer. Associations are typically able to match-fund each individual asset (e.g., loans, investments, etc.) with a transfer rate that eliminates most IRR for the association. Associations that make full use of the benefits of this process maintain a generally match-funded balance sheet and can avoid the costs of implementing and maintaining sophisticated models and systems for managing IRR.¹³

Block-funded associations: Refers to associations that do not use the funding bank's FTP process. Instead, they order blocks of funding from the bank and manage their own asset/liability mix. Block-funding results in complex IRR akin to those at a funding bank, requiring sophisticated IRR measurement and management processes, and dedicated subject matter expertise.

Institutions with significant IRR: This term refers to those System institutions that need to adopt a more comprehensive IRR management framework that goes beyond baseline minimum requirements in order to comply with § [615.5180](#).¹⁴ This term refers to banks and block-funded associations. It also refers generally to associations that significantly mismatch FTP rates or options or that position equity in a manner that could lead to significant declines in net income or MVE.¹⁵ Such associations are subject to the requirements in § [615.5180](#) commensurate with the nature and complexity of their IRR exposures. These associations should establish policies, procedures, and processes sufficient to effectively measure and manage their unique sources of IRR. Any other System institutions (e.g., service corporations) with significant IRR must also comply with § [615.5180](#).

Market value of equity (MVE): MVE equals the net present value of forecasted cash flows for existing financial positions discounted using prevailing market interest rates and spreads, plus the book value of positions that do not have cash flows (e.g., cash, plant, property, and equipment). Stated another way, MVE is based on how assets, liabilities, and derivative positions would be priced in prevailing markets.¹⁶ MVE captures the impact that changes in interest rates have on the net economic value of the institution even though it

¹³ While FTP has broader application within the System, this booklet refers to the FTP process from the limited perspective of its use in pricing the bank's direct loans to associations and the resulting impact on association IRR exposures. FTP also refers to the pricing of direct loans to service corporations and other System institutions if they are funded and priced in the same manner as associations.

¹⁴ Section 615.5182 extends the requirements of § 615.5180 to associations and other System institutions where IRR could lead to significant declines in net income or the market value of capital.

¹⁵ Equity positioning can result in significant IRR. Equity reduces the amount of debt that otherwise would be required to match-fund each asset. If equity is concentrated in funding assets in certain time buckets, it can expose earnings or capital to significant IRR. For example, positioning all equity to fund the longest-term assets generally results in higher risk to MVE.

¹⁶ For the base-case measurement of MVE, pricing is based on observable market prices and spreads or, if unavailable, estimated using market-derived factors.

may not be reflected in accounting or regulatory capital values. MVE is also a proxy for the future earnings capacity residing in the *existing* balance sheet and financial positions.¹⁷

Static balance sheet: IRR measurements using a static or constant balance sheet assume the size and composition of the balance sheet remain stable. Cash flows from maturing or amortizing assets and liabilities are rolled back into instruments from the same product category. Static measures are relatively standardized, involve fewer business assumptions, and enable comparisons to peers and an understanding of IRR changes over time.

Dynamic balance sheet: IRR measurements using a dynamic balance sheet incorporate business and strategic assumptions such as growth, business plan projections, and changes in spreads, asset mix, and liability mix. Dynamic measurements can help management assess the impact of strategic alternatives on risk and, when supplemented with static measures, provide a more complete description of IRR exposures. However, dynamic measures are more heavily dependent on business assumptions that are difficult to predict with accuracy over an extended time period. In addition, depending on the assumptions, dynamic measures can mask IRR exposures (e.g., income from assumed growth or widening spreads, or assumed management responses to changing interest rates, could offset the impacts of IRR).

¹⁷ MVE cannot be readily reconciled to subsequent reported earnings for a variety of reasons. In particular, MVE values the existing balance sheet, but in reality, new assets, liabilities, and off-balance sheet positions are constantly added as positions mature and roll off. Nonetheless, the higher the MVE, the more earnings can potentially be generated from the existing balance sheet in future periods.