Office of Inspector General

Office of Audits and Evaluations
Report No. EVAL-16-004

Interest Rate Risk Management Case Study

March 2016

Office of Inspector General

Executive Summary

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Why We Did The Audit

The FDIC has been concerned that certain institutions are not sufficiently prepared or positioned for sustained increases in, or volatility of, interest rates because rates have been exceptionally low for a prolonged period. To address its concerns, the FDIC's Division of Risk Management Supervision (RMS) has undertaken a number of initiatives, including reiterating supervisory expectations and enhancing its offsite review program to help identify institutions that have potential exposure warranting additional review.

The objective of this evaluation was to study RMS' response to institutions with elevated interest rate risk (IRR) profiles. The scope of this study focused on well-rated institutions identified by the FDIC's analysis of Call Report data as of June 30, 2013 as having above average IRR exposure. In our view, focusing on this particular group provided a reasonable way to isolate our attention on the FDIC's supervisory response to IRR. Additionally, studying institutions meeting these criteria was of interest because, historically, regulators have been challenged dealing with ostensibly healthy institutions engaging in risky behavior. Forward-looking supervision is aimed at addressing this issue, thus, our evaluation approach enabled us to assess one application of this initiative.

In total, 98 FDIC-supervised institutions met our study criteria. For each of the 98 institutions, we primarily obtained data about the institution's IRR position and associated risk management practices from RMS examination and visitation reports and other supervisory documentation initiated between January 2012 and June 2015. This focus generally provided us three data points – the examiners' assessment as part of RMS' offsite review program and the examination reports both before and after that assessment.

Background

Managing IRR is a central aspect of prudent banking and has been a focus of supervisors for some time. During 1996, the FDIC and other federal banking regulators issued a *Joint Agency Policy Statement on Interest Rate Risk* (*Policy Statement*), which outlines principles and practices for effectively identifying, measuring, monitoring, and controlling IRR. The *Policy Statement* emphasizes the importance of adequate oversight by a bank's board of directors (Board) and senior management and of a comprehensive risk management process. In 1996, the regulators also revised the Uniform Financial Institutions Rating System (UFIRS) to include Sensitivity to Market Risk (i.e., the "S" component). Examiners use the "S" component to assess the degree to which changes in interest rates, foreign exchange rates, commodity prices, or equity prices may affect an institution's earnings or capital. For most community banks, market risk consists primarily of IRR.

The FDIC and other federal banking regulators took steps in 2010 to re-emphasize the importance of effective policies, strong internal controls, and risk mitigation strategies to appropriately manage interest rate sensitivity. The FDIC took steps in 2013 and 2014 to again reiterate IRR risk management tenets. These steps were intended to help institutions prepare for a period of rising interest rates. The FDIC also provided targeted IRR training for examiners and regional office personnel during this timeframe. Although not related to IRR specifically, RMS developed its forward-looking supervision initiative in 2011 as part of the "Lessons Learned from the Crisis." The goal of the forward-looking supervision initiative was to identify and assess the potential impact of an institution's new and/or growing risks and ensure early mitigation, including corrective action, if necessary.

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In 2013, the FDIC enhanced its offsite review program to better identify and evaluate institutions with significant rate sensitivity positions. As part of that effort, examiners were required to follow up with institutions identified as having elevated IRR positions to better understand and evaluate institution risk exposure and mitigation strategies. For most institutions included in the scope of this study, the follow-up consisted of onsite visitations, which are referred to as IRR reviews throughout our report.

Audit Results

Consistent with its risk-focused examination process, institutions identified by RMS as having above average exposure to higher interest rates through its offsite review program were subject to greater supervisory attention. The results of the IRR reviews triggered RMS' supervisory response for individual institutions, which ranged from no further action being taken to downgrading the component rating. We observed the following related to RMS' supervisory response for the 98 institutions included in our study:

Examiners' Identification of IRR Concerns and Policy Statement Contraventions Increased. The IRR reviews generally generated more examiner concerns related to the degree of risk associated with the institutions' asset/liability positions and more specificity about the nature of examiners' concerns related to the institutions' IRR risk management practices than prior examinations. Examiners also identified more *Policy Statement* contraventions. FDIC officials explained that recent RMS IRR training likely contributed to the increased number of citations. The increased concerns and contraventions demonstrate the emphasis being placed on tenets of good IRR management outlined in the *Policy Statement*.

Supervisory Action Taken Prompted Institutions to Take Corrective Action. RMS pursued some type of supervisory action as a result of the IRR review in 84 percent of the cases we studied. This level of supervisory response is a good example of forward-looking supervision in practice, considering that all of the institutions in our study received top "S" ratings in the prior examination. The nature of the supervisory action taken was as follows: (1) continue to monitor the institution in 51 cases, (2) recommendations to the Board and bank management in 15 cases, and (3) lower sensitivity to market risk ratings in 16 cases. Additionally, we observed that examiners took progressively stronger supervisory action as they deemed necessary in the subsequent examinations. For instance, a number of cases migrated from being monitored to having examiners make recommendations to the Board or management. Lastly, examiners took no action in 16 cases where institutions had strong risk management practices to mitigate risk exposure.

Our analysis of subsequent examination reports indicated that institutions generally took corrective actions to address supervisory concerns. This supports the notion that, when identified early, institutions with a strong management and Board can and will be responsive. However, we noted that the smallest community banks had more difficulty in resolving identified deficiencies. FDIC officials explained that smaller institutions do not always have the risk management processes in place and/or resources needed to mitigate increasing risks. To that end, officials further explained that the FDIC recently updated its IRR Technical Assistance videos, and regional offices work to provide best practice information to promote the development of effective IRR management practices at smaller institutions.

Concluding Observations. Our observations, while limited to the group studied, illustrate RMS' application of forward-looking supervision. Employing lessons learned from the financial crisis, RMS has taken a series of steps aimed at emphasizing the importance of having effective risk management practices in place to mitigate the effects of adverse movements in interest rates before they happen. The FDIC's response included reiterating supervisory expectations; enhancing its offsite review program to better identify institutions with above-average IRR exposure; and following up by applying risk-focused examination procedures to further understand institution-specific risks. Further, the FDIC's process encourages examiners to consider the fact that even well-rated institutions can experience financial stress in cases where risks are not properly monitored, measured, and managed. Accordingly, as warranted, we observed that examiners are taking proactive supervisory action and progressive action to encourage banks to take preemptive measures to address risk exposures before their profitability and viability is impacted. For the most part, institutions are responding to examiners' concerns. Importantly, management's responsiveness to supervisory concerns was a key differentiating factor between banks that failed and those that remained viable during the financial crisis.

Corporation Comments

The Director, RMS, provided a written response dated March 7, 2016, to the draft report. In the response, the Director stated that RMS intends to continue its vigilant supervision of IRR. Further, the Director stated that professional development efforts will remain a priority to ensure that staff have the knowledge and resources to prudently supervise rate sensitivity issues.

Contents

Federal Deposit Insurance Corporation
3501 Fairfax Drive, Arlington, Virginia 22226

Office of Audits and Evaluations
Office of Inspector General

DATE: March 18, 2016

MEMORANDUM TO: Doreen R. Eberley, Director
Division of Risk Management Supervision

/Signed/

FROM: E. Marshall Gentry
Assistant Inspector General for Evaluations

SUBJECT: *Interest Rate Risk Management Case Study*
(Report No. EVAL-16-004)

This report presents the results of our interest rate risk (IRR)[1] management case study. To address its concerns related to IRR at institutions resulting from a prolonged low interest rate environment, the FDIC's Division of Risk Management Supervision (RMS) has undertaken a number of initiatives, including reiterating supervisory expectations and enhancing its offsite review program to help identify institutions that have potential exposure warranting additional review.

EVALUATION OBJECTIVE AND APPROACH

The objective of this evaluation was to study RMS' response to institutions with elevated IRR profiles. The scope of this study focused on evaluating RMS' response with respect to a certain group of institutions that were identified through the FDIC's offsite analysis as having an elevated IRR exposure. More specifically, our study concentrated on those institutions identified by the FDIC's analysis of Call Report data as of June 30, 2013 as having above average IRR exposure and composite examination ratings under the Uniform Financial Institutions Rating System (UFIRS) indicating that market risk sensitivity was well or adequately controlled. Further, the vast majority of institutions in our study also had the best composite ratings, meaning they exhibited strong performance and risk management practices relative to their size, complexity, and risk profile, and generally gave no cause for supervisory concern. In our view, focusing on this particular group provided a reasonable way to isolate our attention on the FDIC's supervisory response to IRR. That said, we were mindful that other risks might be present and play a factor in FDIC's supervisory response. Additionally, studying institutions meeting these criteria was of interest because, historically, regulators have been challenged dealing with ostensibly healthy institutions engaging in risky behaviors. For example, in the past, regulators found it difficult to distinguish such behavior from acceptable risk/return trade-offs or to modify the behavior of institutions while they appeared to be healthy.

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[1] Certain terms that are underlined when first used in this report are defined in Appendix 2, *Glossary of Terms*.

Forward-looking supervision is aimed at addressing this issue, thus, our evaluation approach enabled us to assess one application of this initiative.

In total, 98 FDIC-supervised institutions met our study criteria. For each of the 98 institutions, we primarily obtained data about the institutions' IRR position and associated risk management practices from RMS examination and visitation reports and other supervisory documentation initiated between January 2012 and June 2015. This focus generally provided us three data points – the examiners' assessment as part of RMS' offsite review program and the examination reports both before and after that assessment. We conducted this evaluation in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*. This report contains several appendices. Appendix 1 includes additional details on our objective, scope, and methodology; Appendix 2 contains a glossary of key terms; Appendix 3 contains a list of acronyms; and Appendix 4 contains the Corporation's response.

BACKGROUND

The FDIC has been concerned that certain institutions are not sufficiently prepared or positioned for sustained increases in, or volatility of, interest rates because interest rates have been exceptionally low for an extended period of time. Movements in interest rates affect an institution's earnings by changing its net interest income (NII) and the level of other interest-sensitive income and operating expenses. Deposits could migrate in a rising-rate environment to higher yielding deposit products or non-bank investments. The rate at which deposits run off will directly affect cash flows and the effective maturity of liabilities. Changes in interest rates also affect the underlying economic value of the institution's assets, liabilities, and off-balance sheet items. These changes occur because the present value of future cash flows and the value of the cash flows themselves change when interest rates change. The combined effects of the changes in these present values reflect the change in the institution's underlying economic value known as the economic value of equity (EVE). These changes also provide an indicator of the expected change in the institution's future earnings.

The FDIC's analysis of industry data suggests that the composition of many banks' balance sheets evolved in a way that has increased their exposure to rising interest rates. Figure 1 illustrates the low interest rates in the United States since 2008. Notably, on December 16, 2015, the Federal Open Market Committee voted to raise the target Federal Funds effective rate from 0.25 to 0.50 percent.

Figure 1: Federal Funds Effective Rate

Source: Board of Governors of the US Federal Reserve System.

Managing IRR is a central aspect of prudent banking and has been a focus of supervisors for some time. During 1996, the FDIC and other federal banking regulators issued a *Joint Agency Policy Statement on Interest Rate Risk* (*Policy Statement*), which outlines principles and practices for effectively identifying, measuring, monitoring, and controlling IRR. The *Policy Statement* emphasizes the importance of adequate oversight by a bank's board of directors (Board) and senior management and comprehensive risk management processes illustrated in Figure 2.

Figure 2: Interest Rate Risk Management Processes

Source: FDIC's Virtual Technical Assistance Video Program -- presentation materials for *IRR Overview and Recent Industry Trends.*

In 1996, the regulators also revised UFIRS to include Sensitivity to Market Risk (i.e., the "S" component). Examiners use the "S" component to rate the degree to which changes in interest rates, foreign exchange rates, commodity prices, or equity prices may affect an institution's earnings or capital. For most community banks, market risk consists primarily of IRR. Figure 3 summarizes action taken since 2010 by the FDIC and other federal banking regulators[2] to re-emphasize the importance of effective policies, strong internal controls, and risk mitigation strategies to appropriately manage interest rate sensitivity. During this period, the FDIC has also provided targeted IRR training for examiners and regional office personnel.

[2] In addition to the FDIC, the federal banking regulators consist of the Board of Governors of the Federal Reserve System, the National Credit Union Administration, and the Office of the Comptroller of the Currency.

Figure 3: Key Actions Taken to Address IRR, 2010 to 2014

2010	2013	2014
The FDIC and other federal banking regulators issued an ***Advisory on Interest Rate Risk Management***, to remind institutions of supervisory expectations regarding sound practices for managing IRR.	The FDIC issued a Financial Institution Letter, *Managing Sensitivity to Market Risk in a Challenging Interest Rate Environment*, (FIL 46-2013), to re-emphasize the importance of prudent interest rate oversight and risk management processes to ensure FDIC institutions are prepared for a period of rising interest rates. The FDIC also posted a video about IRR on its Website as part of its Technical Assistance Video Program.	The FDIC dedicated its Winter 2014 *Supervisory Insights* Journal to the topic of IRR. Articles featured were intended to help banks enhance IRR management processes and be better prepared for a period of higher and more volatile interest rates.

Source: OIG analysis of FDIC guidance and publications.

Although not related to IRR specifically, RMS implemented forward-looking supervision in 2011 as part of the "Lessons Learned from the Crisis." The goal of forward-looking supervision is to identify and assess the potential impact of an institution's new and/or growing risks and ensure early mitigation when necessary. The forward-looking supervision training provided to examiners (1) emphasized that examiners should consider bank management practices as well as current and prospective financial performance and conditions or trends when assigning ratings and (2) served to improve examiners' comfort level regarding recommending appropriate and timely corrective action when they identify weak management practices.

In 2013, the FDIC also enhanced its offsite review program to better identify and evaluate institutions with significant rate sensitivity positions. As part of that effort, examiners were generally required to follow up with institutions to better understand the institution's interest rate position and related risk management practices. For most institutions included in this study, the follow-up consisted of an onsite visitation, which is referred to as an IRR review throughout our report. Examiners generally used RMS' standard IRR examination procedures, including using Examination Documentation (ED) modules or other tools in completing IRR reviews.

EVALUATION RESULTS

Employing lessons learned from the financial crisis, RMS has taken a series of steps aimed at emphasizing the importance of having effective risk management practices in place to mitigate the effects of adverse movements in interest rates before they happen. Consistent with its risk-focused examination process, institutions identified by RMS as having above-average exposure to higher interest rates through its offsite review program were subject to greater supervisory attention, which for institutions in our study involved examiners completing IRR reviews. The results of the IRR reviews triggered RMS' supervisory response for individual institutions, which ranged from no action being taken to pursuit of enforcement actions. Generally, the supervisory action prompted institutions to take corrective action.

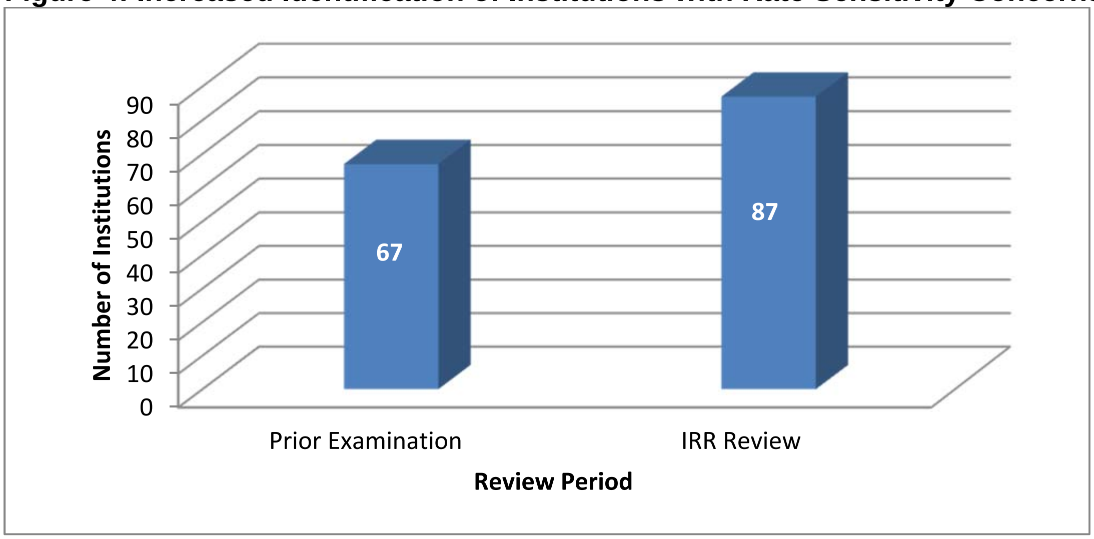
Examiners' Identification of IRR Concerns and *Policy Statement* Contraventions Increased

The following summarizes our observations related to RMS' supervisory response to the 98 cases we studied:

Increased Identification of Rate Sensitivity Concerns

The FDIC has stated that in the years since the financial crisis, some banks have extended their asset maturities to generate income in response to low market interest rates and a challenging earnings environment. As a result, these institutions could be adversely affected by a sustained and substantial increase in interest rates. Lengthening asset maturities and a potentially more rate-sensitive mix of liabilities are industry trends that portend problems should rates rise. The FDIC has reiterated to institutions that these trends highlight the importance of proactively managing and addressing IRR. When a bank's assets reprice more quickly than a bank's liabilities, it is considered an asset sensitive bank. When an institution's liabilities reprice faster, it is considered to be a liability sensitive bank. If a bank is asset sensitive, its net interest income will move in the same direction as interest rates. If a bank is liability sensitive, its net interest income will move in an opposite direction of interest rates. The extent of the mismatch between the maturity or repricing of assets and liabilities is a key element in assessing an institution's exposure to IRR. Figure 4 shows that examiners' interest rate sensitivity concerns noted in the IRR review increased 30 percent in comparison to the prior examination.

Figure 4: Increased Identification of Institutions with Rate Sensitivity Concerns



Source: OIG analysis of Reports of Examination (ROE) and IRR review documentation.

We should note that for our sample, IRR reviews were conducted an average of 11 months after the institutions' prior examination. Because of the short interval between analyses and the lack of significant interest rate changes during this period, we concluded it was unlikely that the increase in institutions was due to deterioration in the institutions' rate sensitivity. More likely, the increase in institutions was due to an increased supervisory focus on IRR. Recognizing that examiners are required to evaluate a bank's IRR sensitivity as part of a risk management examination, the IRR review process provided for some additional structure in terms of elements expected to be addressed by examiners. As such, in comparison to prior examinations, we noted greater discussion of IRR position in both the IRR review and subsequent examination.

The following provides some examples of rate sensitivity concerns that were identified by examiners as part of IRR review:

- An increase investment in long-term securities, which heightened price risk.[3] As a result, in a rising rate environment, the securities value could be subject to depreciation. As explained in the Winter 2013 *Supervisory Insights* article on IRR, banks with longer-maturity security portfolios should prepare for the risk of declining fair values that may come as a result of higher interest rates.

- A significant volume of variable rate loans, which were currently at their floor rate. In a rising rate environment, the benefit to interest income would be delayed until rising market rates surpassed the floor rate. Until then, the institution's NIM could be subject to contraction.

- An insufficient analysis of deposit assumptions. Systems for measuring and managing IRR are key analytical tools for helping banks position themselves for potential changes in interest rates. The IRR measurement process depends heavily on certain critical assumptions to generate reasonably reliable results. As a result, unsupported assumptions increase uncertainty and may pose unintended risk to earnings and capital. Notably, according to the Winter 2014 *Supervisory Insights* article, the use of unsupported or stale assumptions is one of the most common IRR issues identified by examiners.

The *Policy Statement* states that bank management should ensure that risk is measured over a probable range of potential interest rate changes, including meaningful stress situations. In developing appropriate rate scenarios, bank management should consider a variety of factors such as the shape and level of the current term structure of interest rates and historical rate movements. The scenarios used should incorporate a sufficiently wide change in market interest rates (e.g., +/- 200 basis points over a 1-year horizon) and include immediate or gradual changes in market interest rates as well as changes in the shape of the yield curve in order to capture the material effects of any explicit or embedded options.

[3] There are several types of IRR, including repricing risk, basis risk, yield curve risk, option risk and pricing risk.

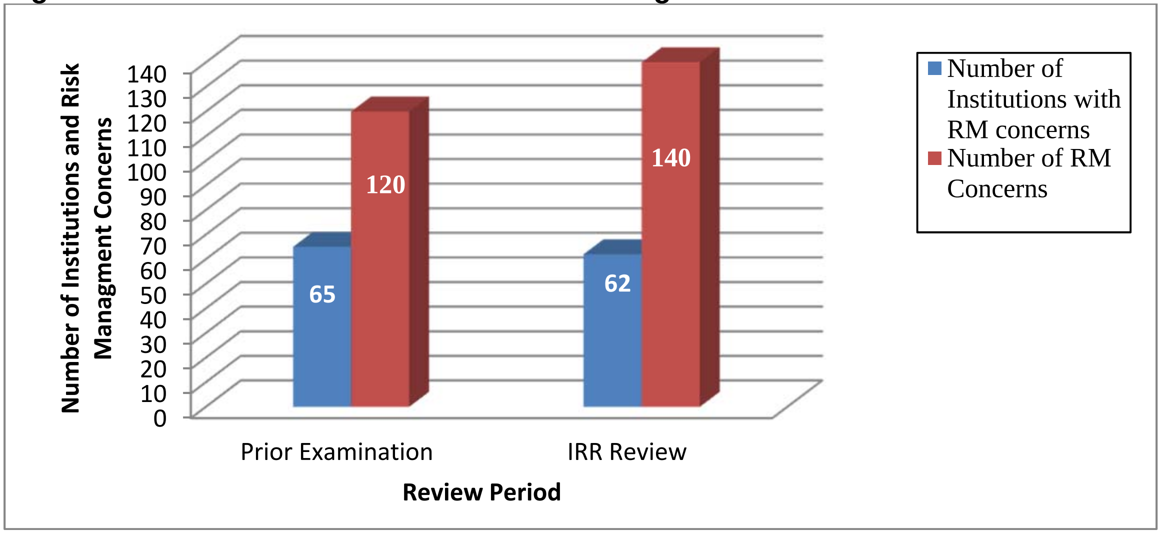
Typically, banks use a combination of basic gap, income simulation, and EVE analyses to measure short- and long-term exposure to changing interest rates.[4] Depending on the magnitude of a bank's rate sensitivity, the examiner will likely have follow-up questions about the portfolio management philosophy and depositor behavior. Although we saw increased interest rate sensitivity concerns, we could also determine from reviewing examination reports that the institutions' IRR models frequently considered a gap analysis and performed measures for both NII and EVE. Further, in the IRR reviews, examiners typically included a rate sensitivity analysis that incorporated graduated rate scenarios up to +/- 400 basis points, parallel and non-parallel rate shifts, and 1-year and 2-year time horizons in assessing the institution's position as part of their analysis of the institutions' quantitative IRR position. The 2010 *Advisory on IRR Management* noted that institutions should regularly assess IRR exposures beyond typical industry conventions, including changes in rates of greater magnitude (e.g., up and down 300 and 400 basis points) because in many cases, static interest rate shocks consisting of parallel shifts in the yield curve of plus and minus 200 basis points may not be sufficient to adequately assess an institution's IRR exposure. While examiners may have considered this analysis in prior examinations, there was less discussion of it in the prior examination reports.

Risk Management Concerns

The *Policy Statement* provides that because market conditions, bank structures, and bank activities vary, each bank needs to develop its own IRR management program tailored to its needs and circumstances. Nonetheless, there are certain elements that are fundamental to sound IRR management, including appropriate board and senior management oversight and a comprehensive risk management process that effectively identifies, measures, monitors, and controls risk. We did not find a substantial change in the overall number of institutions for which examiners identified risk management concerns between the prior examination and the IRR review. This was not totally unexpected given our study focused on institutions with the top "S" component ratings, meaning this group consisted of institutions that were found to have strong or adequate risk management practices for the size, sophistication, and market risk accepted by the institution. However, as shown in Figure 5, the number of risk management concerns identified by examiners related to those institutions increased 17 percent (120 to 140) based on the results of RMS' IRR review.

[4] Gap analysis is a simple IRR methodology that provides an easy way to identify repricing gaps. Gap analysis has several weaknesses and is generally not sufficient as a financial institution's sole measurement method. Earnings (or income) simulation models (such as pro-forma income statements and balance sheets) estimate the effect of interest rate changes on net interest income, net income, and capital for a range of scenarios and exposures.

Figure 5: Increased Identification of Risk Management Concerns



Source: OIG analysis of ROEs and IRR review documentation.

Table 1 provides details about examiners' concerns relative to IRR risk management processes outlined in the *Policy Statement*.

Table 1: Nature of Risk Management Practice Concerns Identified

Risk Management Processes	Prior Examination	IRR Review	Percentage Change
Risk Controls and Limits	47	37	(21)%
Identify and Measure	36	41	14%
Internal Controls and Audit	16	27	69%
Monitor and Report	18	28	56%
Total Risk Management Concerns	**117**	**133**	**14%**

Source: OIG analysis of ROEs and IRR review documentation.

A description of the four risk management framework processes and common findings for each one follows.

Risk Control and Limits. Although we noted a decrease in concerns in this area, examiners frequently identified weaknesses in institution policy and procedures in both the IRR review and the prior examination. According to the *Policy Statement*, a bank's Board and senior management should ensure that the structure of the bank's business and the level of IRR it assumes are effectively managed and that appropriate policies and practices are established to control and limit risks. Policies that establish appropriate risk limits that reflect the Board's risk tolerance are an important part of an institution's risk management process. Risk limit controls should ensure that positions that exceed certain predetermined levels receive prompt management attention. Further, FDIC's 2013, FIL-46-2013, *Managing Sensitivity to Market Risk in a Challenging Interest Rate Environment*, reiterated the need to review policies and exposure limits annually. For cases in our study, examiners frequently found that institutions needed to establish IRR parameters or revise current parameters to a reasonable level for NII and EVE. Examiners also indicated that institutions needed to establish policy guidance requiring a review of compliance and steps that should be taken should IRR fall outside Board-approved levels.

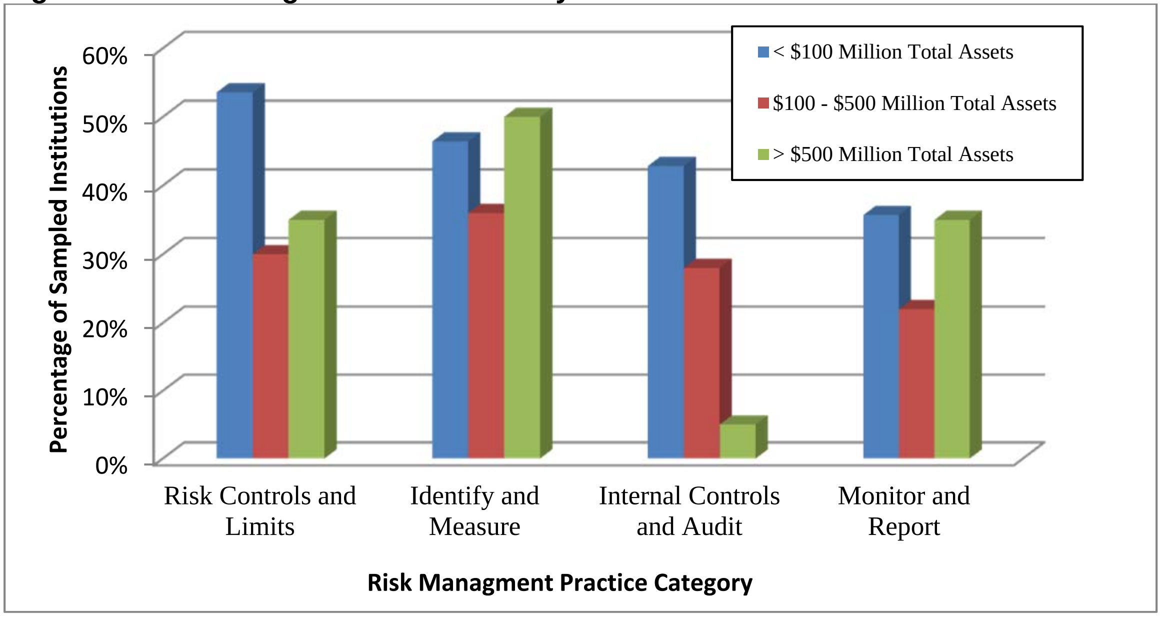
Identify and Measure. As indicated in Table 1, examiners commonly identified weaknesses in internal measurement systems for cases in our study in both prior examinations and IRR reviews. As explained in the *Policy Statement*, the type of measurement system that a bank requires to operate prudently depends on the nature and mix of its business lines and the IRR characteristics of its activities. Further, management is expected to give particular attention to the quality of the data and various assumptions used in models because the quality and reliability of the measurement system is largely dependent upon those items. Generally, in this area, examiners requested support for model assumptions or noted institutions needed to enhance IRR models.

Internal Control and Audit. The effective control of the IRR management process includes independent review and, where appropriate, internal and external audit. In 28 percent of cases we studied, examiners noted concerns related to the internal control or audit process. In some cases, examiners noted that the institutions did not have an independent review or an independent review was not performed recently. Consistent with the *Policy Statement*, examiners also emphasized the need for the independent review to include assessments of the assumptions and methodologies of the institution's IRR model.

Monitor and Report. A bank's senior management and Board or a Board committee are expected to receive reports on the bank's IRR profile at least quarterly to, among other things, evaluate the level and trends of the bank's aggregated IRR exposure. For 29 percent of cases we reviewed, examiners noted that institutions needed to enhance monitoring and reporting functions, including Board and senior management oversight. Examiners indicated that Boards needed to review IRR exposures and review noncompliance with policy limits. Examiners also commented that there was insufficient documentation of Board discussions regarding IRR exposures and policy exceptions.

Notably, examiners identified risk management concerns within small financial institutions more frequently than larger institutions. That said, examiners consider factors such as the size of the bank, the nature and complexity of its activities, and the adequacy of its capital and earnings in relation to the bank's overall risk profile in assessing sensitivity to market risk. RMS officials explained that our observation is consistent with its own analysis and experience. Further, officials explained that often smaller institutions do not have the resources to invest in more controls as risks increase. To address this issue, RMS regional offices work to share best practices among smaller institutions and recently updated its IRR Technical Assistance Video Program.

Figure 6: Risk Management Concerns by Institution Asset Size



Source: OIG analysis of ROEs and IRR review documentation.

The IRR review also resulted in the identification of more contraventions of the *Policy Statement*. Specifically, the number of contraventions for an insufficient Independent Review or Audit among 98 institutions in our study increased from 9 in the prior examination to 19 in the IRR review. There were no contraventions cited for the other *Policy Statement* processes.

FDIC officials explained that RMS' recent examiner training on IRR focused and likely contributed to the increased number of risk management concerns identified and contraventions cited. In our view, the increase illustrates positive outcomes resulting from emphasis being placed on tenets of good IRR management in the *Policy Statement*.

Supervisory Action Prompted Institutions to Take Corrective Action

Supervisory expectations related to IRR management are contained in the *Policy Statement* and the 2010 *Interagency Advisory on IRR Management*. When evaluating the applicability of the tenets contained in these documents, an institution's management and regulators are expected to consider factors, such as the size of the institution, the nature and complexity of its activities, and the adequacy of its level of capital and earnings in relation to its overall IRR profile. As a result of the IRR review, RMS pursued some type of supervisory action in 84 percent of the 98 cases that we reviewed. Further, our review of subsequent examinations found that institutions generally took corrective action in response to IRR findings or examiners took progressively stronger action if institutions were either not responsive or if IRR weaknesses persisted.

Nature of Supervisory Actions

The nature of supervisory actions ranged from no action being taken to pursuit of enforcement actions. Table 2 details the supervisory actions taken with respect to IRR for the three examination/review periods included in our scope.

Table 2: Supervisory Actions Taken

Supervisory Response and Description	Prior Examination	IRR Review	Subsequent Examination
No Action	29	16	23
Continue to Monitor Examiners indicated they would continue to monitor the institution through the offsite review program and/or ensure any noted concerns or issues are evaluated through next visitation or scheduled examination.	2	51	0
Comment and Recommendation Examiners discussed the institution's condition and made recommendations for Management and/or the Board of Directors. Matters Requiring Board Attention were included in this response.	59	15	58
S Component Downgrade Examiners downgraded the "S" component rating one or more levels.	7	16	12
Enforcement Action RMS issued a Memorandum of Understanding or a Consent Order with one or more IRR provisions.	1	0	4

Source: OIG analysis of ROEs and IRR review documentation.

As we would expect to find for well-rated institutions, the IRR review did not generally result in strong supervisory action. However, examiners concluded that continued monitoring of the institution was warranted in 52 percent of the cases (51 of 98). There were 16 cases where examiners took no action – in 14 cases examiners determined the institutions had strong risk management practices to mitigate IRR and in 2 cases examiners concluded that the institutions did not have elevated IRR exposures.

We included information about prior examinations to provide perspective. In conducting this study, we did not in any way want to infer that the FDIC was not taking action to evaluate and address IRR before implementation of its enhanced IRR offsite review program. Indeed, many steps taken by the FDIC reiterate guidance and reinforce existing examination tools. Nonetheless, the level of supervisory action increased from 70 percent to 84 percent from the prior examination to the IRR review.

According to the FDIC's *Formal and Informal Actions Procedures* (FIAP), when unacceptable practices are detected early, examiners should bring these matters to the attention of management and engage in discussions regarding the problematic areas and potential corrective actions. The ability of examiners and management to engage in discussions is a vital and longstanding part of the examination process, and often results in the type of early intervention that is necessary to correct problems before they become serious. Often if management shows the ability and willingness to correct deficiencies within a reasonable timeframe, then documenting the problems and management's commitment for corrective action in the report of examination will likely be a sufficient supervisory response, subject to appropriate follow-up during an interim contact, on-site visitation, or the next examination. However, if this process does not achieve the desired result or if the initially identified problems are more serious, the issuance of an informal or even formal corrective action may be warranted. Notably the FDIC's FIAP manual points out that this may be the case even when an institution is rated a composite 1 or 2 so that the specific actions or inactions by the institution can be addressed and corrected.

Although the scope of our work was not designed to evaluate whether examiners complied with the FDIC's examination procedures, we determined that the level of supervisory action corresponded to the type and severity of IRR concerns identified by examiners. For example, institutions receiving S component downgrades frequently had a large volume of long-term assets or investments, thereby increasing the level of risk. Downgraded institutions often had excessive or non-existent IRR policy limits and unsupported IRR model assumptions. For institutions receiving Comments and Recommendations, examiners commonly recommended that management validate and test model assumptions. Examiners also recommended that the Boards ensure the risk limits were appropriate for the institution. RMS elected to continue monitoring institutions that were rate sensitive or needed IRR model enhancements. Table 3 presents the supervisory action for the types of identified concerns.

Table 3: Supervisory Actions Relative to IRR Risk Management Process

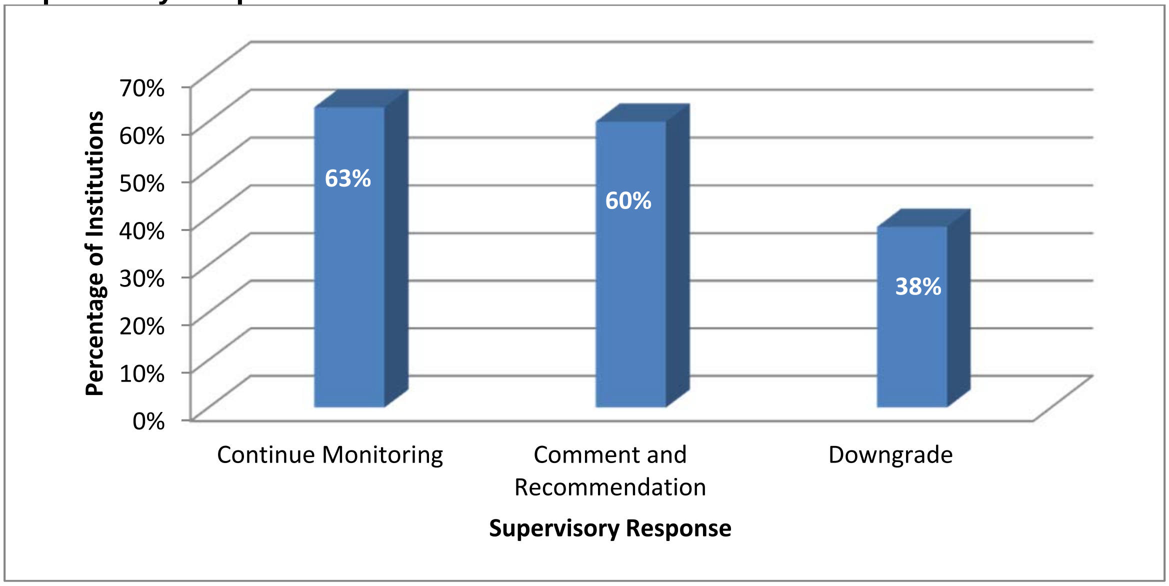
IRR Concern	No Action	Continue Monitoring	Comment and Recommendation	S Component Downgrade
Elevated Rate Sensitivity	14	17	0	2
Risk Management Practices	0	3	5	0
Both Rate Sensitivity and Risk Management Practices	0	30	10	14
No Concern	2	1	0	0
Totals	16	51	15	16

Source: OIG analysis of ROEs and IRR review documentation.

Responsiveness to Supervisory Concerns

Based on our review of examinations completed subsequent to the IRR review, institutions were generally responsive to supervisory concerns and actions. More specifically, the majority (59 percent) of institutions were able to address examiner concerns and improve rate sensitivity positions and weak risk management practices. The corrective response rate of the institution appeared to vary based on the severity of the concern and RMS' supervisory response. For example, institutions with IRR concerns severe enough to warrant a component downgrade had the least success in remediating examiner concerns by the subsequent examination. Figure 7 shows the corrective response rate by the type of supervisory action.

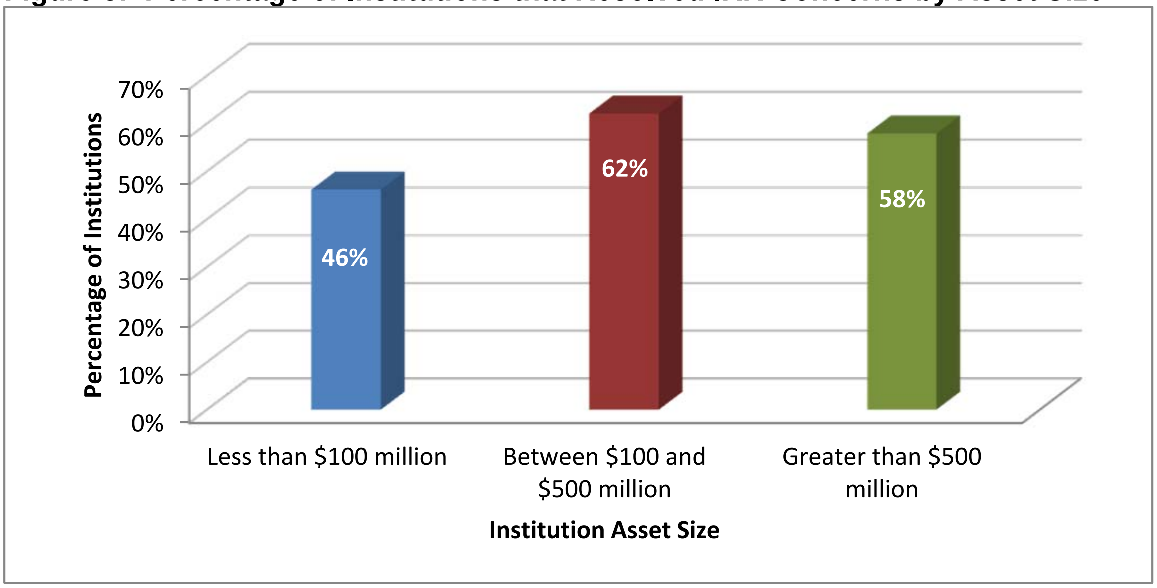
Figure 7: Percentage of Institutions that Resolved IRR Concerns by Type of Supervisory Response



Source: OIG analysis of ROEs and IRR review documentation.

Institutions with less than $100 million in assets resolved rate sensitivity concerns and risk management deficiencies at a lower rate than larger institutions. As discussed earlier, generally, smaller institutions do not always have the risk management processes in place and/or resources needed to mitigate increasing risks. Figure 8 illustrates the percentage of institutions at each size category that resolved IRR concerns by the subsequent examination.

Figure 8: Percentage of Institutions that Resolved IRR Concerns by Asset Size



Source: OIG analysis of ROEs and IRR review documentation.

Concluding Observations

Employing lessons learned from the financial crisis, RMS has taken a series of steps aimed at emphasizing the importance of having effective risk management practices in place to mitigate the effects of adverse movements in interest rates before they happen. The FDIC's response included reiterating supervisory expectations; enhancing its offsite review program to better identify institutions with above-average IRR exposure; and following up by applying risk-focused examination procedures to further understand institution-specific risks. Further, the FDIC's process encourages examiners to consider the fact that even well-rated institutions can experience financial stress in cases where risks are not properly monitored, measured, and managed. Accordingly, as warranted, we observed that examiners are taking proactive supervisory action and progressive action to encourage banks to take preemptive measures to address risk exposures before their profitability and viability is impacted. For the most part, institutions are responding to examiners' concerns. Importantly, management's responsiveness to supervisory concerns was a key differentiating factor between banks that failed and those that remained viable during the financial crisis.

CORPORATION COMMENTS AND OIG EVALUATION

The Director, RMS, provided a written response, dated March 7, 2016, to the draft report. That response is provided in its entirety in Appendix 4 of this report. The Director stated that RMS intends to continue its vigilant supervision of IRR. Further, the Director stated that professional development efforts will remain a priority to ensure that staff have the knowledge and resources to prudently supervise rate sensitivity issues.

Objective, Scope, and Methodology

Objective

The objective of the evaluation was to study RMS' supervisory response to institutions with elevated IRR profiles.

We performed this evaluation from April 2015 through October 2015 in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*.

Scope and Methodology

The scope of this study included evaluating RMS' response with respect to FDIC-supervised institutions that were considered to have (1) an above average exposure to higher interest rates based on either the longer-term structure of the institution's asset portfolio or sensitivity of funding costs based on the FDIC's offsite analysis Call Report data and (2) an "S" component rating indicating that market risk sensitivity was considered well or adequately controlled as of June 30, 2013. Further, the vast majority of institutions in our study also had the best UFIRS composite ratings, meaning they were generally free of other supervisory concerns. In our view, focusing on this particular group provided a reasonable way to isolate our attention on the FDIC's supervisory response to IRR. That said, we were mindful that other risks might be present and play a factor in the FDIC's supervisory response. Additionally, studying institutions meeting these criteria also allowed us to study the response in the context of RMS' ongoing forward-looking supervision initiative.

In total, 98 of 463 institutions identified through the offsite review program met our study criteria. The shaded cells in Table 4 highlight the non-statistical sample of 98 institutions (i.e., also referred to as cases in this report) selected for this study. Non-statistical samples are judgmental and cannot be projected to the population of institutions. None of the sampling techniques that we used can be used to project to the intended population by standard statistical methods.

Table 4: Stratification of IRR Offsite Review Program Results by "S" Component Rating

Offsite Risk Category*	"S" Component Rating					
	1	2	3	4	5	Totals
I	5	46	27	9	10	97
II	8	39	14	4	3	68
III	47	186	46	19	0	298
Totals	60	271	87	32	13	463

Source: OIG analysis of RMS IRR Offsite Review data and examination report results available in ViSION.
*FDIC stratified its analysis of offsite data into three risk categories. Our sample focused on categories I and II, which represented institutions with higher risk profiles because in those categories examiners were required to complete follow-up procedures, thus providing us with a basis for evaluating RMS' supervisory response.

We met with RMS officials to learn about steps RMS had taken to enhance its offsite review program in 2013 and reviewed related RMS guidance. Once we identified institutions to study, we obtained examination ratings from the FDIC's Virtual Supervisory Information on the Net (ViSION) system. Prior OIG experience with examination results in ViSION served as our basis for assessing data reliability of this information. Further, our review included looking at examination reports that support information in ViSION. We determined that the offsite review program results and examination data in ViSION was sufficiently reliable for purposes of determining our scope.

To address our evaluation objective, we first gained an understanding of the FDIC's supervisory response to institutions with elevated IRR profiles. We identified and became familiar with key applicable IRR policies, criteria, and guidelines, including, but not limited to:

- FDIC Rules and Regulations
- Statements of Policy
- Financial Institution Letters
- Regional Directors Memoranda
- *Risk Management Manual of Examination Policies*
- Rate Sensitivity Examination Modules
- *Formal and Informal Action Procedures Manual*
- *Case Managers Procedures Manual*

We reviewed OIG Report No. AUD-09-004, *FDIC's Controls Related to the Offsite Review List*, issued in February 2009, for purposes of understanding the FDIC's offsite review program. We also reviewed articles about IRR included in the FDIC's *Supervisory Insights* Winter 2014, 2013, and 2009 editions.

To study RMS' supervisory response for each sampled case, we reviewed examination reports and visitation reports and any other IRR offsite follow-up documentation initiated by RMS officials between January 2013 and June 2015. We collected and analyzed information from these documents at three distinct points in time: (1) when offsite review follow-up was conducted to identify FDIC's supervisory response; (2) before the implementation of the IRR review, which provided a baseline for comparison purposes; and (3) at the examination cycle following the IRR review to assess how institutions responded to supervisory concerns. Most IRR reviews resulting from the IRR review were performed either by visitation or phone contact from October 3, 2013 through December 31, 2013. Accordingly, examinations initiated and/or completed before October 2013 were considered "prior" examinations for our study, and examinations initiated after December 2013 were analyzed as the "subsequent" examinations in this study.

These subsequent examinations occurred between 17 days and 18 months following the IRR reviews. Both the average and median time between the IRR reviews and the subsequent examination was approximately 9 months. We were able to review 97 of the subsequent examinations – one examination was not completed within our scope period and, consequently, we were unable to determine whether the institution was able to address concerns identified by examiners.

In addition to institution-related demographics (e.g., location, asset size, etc…), we generally captured data about the nature of any supervisory concern related to the institution's interest rate exposure, any supervisory action taken, and the institution's response to supervisory concerns or actions. Table 5 provides more detail on information we collected about each case. Our analysis was based on descriptions included in examination reports and other supervisory documentation and, as such, is limited. Despite that limitation, we determined the examination reports provided a sufficient basis for addressing our objective.

Table 5: Data Collected from Examination Reports

Item	OIG Data Categories
Nature of IRR Concern	❑ Asset liability sensitivity ❑ Risk management practices ❑ Both ❑ Whether issue was a repeat concern
Whether Examiners Cited Contravention of Policy	❑ Yes ❑ No
Nature of Supervisory Action Taken	❑ Comment and recommendation ❑ Continued monitoring ❑ Downgrade ❑ Enforcement action ❑ Other ❑ None*
Whether Institution Was Responsive to Supervisory Concern	❑ Yes ❑ No

Source: OIG assignment-related documents.
*Captured reason for no action where apparent.

We analyzed the case data to identify and evaluate any trends, and any similarities and differences among cases. We used "prior" examinations as a basis for comparing examiners' findings and the nature of supervisory actions associated with an institution's interest rate position and risk management practices to those found in IRR reviews. The results of our report reflect the fact that differences may be attributed to other reasons, including changes made by the institutions. We primarily used data from subsequent examinations to the extent available to determine whether institutions were proactively addressing examiners concerns.

Glossary of Terms

Term	Definition
Basis Point	A common unit of measure for interest rates and other percentages in finance. One basis point is equal to 1/100th of 1 percent or .01 percent (.0001), and is used to denote the percentage change in a financial instrument. The relationship between percentage changes and basis points can be summarized as follows: 1 percent change equals 100 basis points, and .01 percent change equals 1 basis point.
Call Report	Reports of Condition and Income, often referred to as Call Reports, include basic financial data for insured commercial banks in the form of a balance sheet, an income statement, and supporting schedules. According to the Federal Financial Institutions Examination Council's (FFIEC) instructions for preparing Call Reports, national banks, state member banks, and insured nonmember banks are required to submit a Call Report to the FFIEC's Central Data Repository (an Internet-based system used for data collection) as of the close of business on the last day of each calendar quarter.
Consent Order	A formal enforcement action issued by a financial institution regulator to a bank or affiliated party to stop an unsafe or unsound practice or a violation of laws and regulations. A consent order may be terminated when the bank's condition has significantly improved and the action is no longer needed or the bank has materially complied with its terms.
Economic Value of Equity (EVE)	An estimation of the changes in an institution's economic value of capital caused by changes in interest rates.
Examination Documentation Module (ED Module)	An examination tool that focuses on risk management practices and guides examiners to establish the appropriate scope. The modules incorporate questions and points of consideration into examination procedures to specifically address a bank's risk management strategies for each major business activity. The examiner's use of the ED module is discretionary.
Federal Funds Effective Rate	The interest rate at which institutions lend funds to other institutions overnight. The Federal Reserve's policy-making committee, the Federal Open Market Committee, sets a target rate for the Federal Funds Effective Rate.
Floor Rate	The minimum rate that a bank can impose on a variable rate loan. A floor rate is often negotiated together with a rate ceiling, called an interest rate cap. The floor protects the lender from a sharp drop-off in rates, and a cap assures the borrower that financing cost will not rise excessively.

Glossary of Terms

Gap Analysis	Gap analysis helps identify maturity and repricing mismatches between assets, liabilities, and off-balance sheet instruments. Gap schedules segregate rate-sensitive assets, rate-sensitive liabilities, and off-balance sheet instruments according to their repricing characteristics. Then the analysis summarizes the repricing mismatches for defined time horizons.
Interest Rate Risk (IRR)	The exposure of a bank's current or future earnings and capital to adverse interest rate changes.
Interest Rate Sensitivity	Degree of change in the price of an asset in response to fluctuations in interest rates.
Matters Requiring Board Attention (MRBA)	Material issues and recommendations that require action by the directorate and follow-up by regulators between examinations. MRBA highlight areas that require prompt attention to evaluate risk and implement corrections before conditions deteriorate.
Memorandum of Understanding (MOU)	An informal agreement between the institution and the FDIC, which is signed by both parties. The State Authority may also be party to the agreement. MOUs are designed to address and correct identified weaknesses in an institution's condition.
Net Interest Income (NII)	The revenue that is generated from the difference between interest-bearing assets and liabilities. For example, NII includes the spread between interest paid out on deposits and interest earned on assets.
Offsite Review Program	The FDIC's offsite review program is designed to identify emerging supervisory concerns and potential problems so that supervisory strategies can be adjusted appropriately. Offsite reviews are performed quarterly for each bank that appears on the Offsite Review List. Regional management is responsible for implementing procedures to ensure that offsite review findings are factored into examination schedules and other supervisory activities.
Technical Assistance Video Program	A series of FDIC educational videos designed to provide useful information to bank directors, officers, and employees on areas of supervisory focus and regulatory changes.

Glossary of Terms

Types of Interest Rate Risk (IRR)	IRR has many components, including: **Repricing risk** results from timing differences between coupon changes or cash flows from assets and liabilities. **Basis risk** results from weak correlation between coupon rate changes for assets, liabilities, and off-balance sheet instruments. **Yield curve risk** results from changing rate relationships between different maturities of the same index. **Option risk** results when a financial instrument's cash flow timing or amount can change as a result of market interest rate changes. **Price risk** results from changes in the value of marked-to-market financial instruments that occur when interest rates change.
Uniform Financial Institutions Rating System (UFIRS)	Financial institution regulators and examiners use the UFIRS to evaluate a bank's performance in six components represented by the CAMELS acronym: **C**apital adequacy, **A**sset quality, **M**anagement practices, **E**arnings performance, **L**iquidity position, and **S**ensitivity to market risk. Each component, and an overall composite score, is assigned a rating of 1 through 5, with 1 having the least regulatory concern and 5 having the most concern.
Virtual Supervisory Information on the Net (ViSION)	An FDIC information system that facilitates financial institution supervision activities, which include application processing, examination tracking, offsite analysis and monitoring, formal and informal action tracking, and case management.
Yield Curve	A graph depicting the yields of similar debt instruments of differing maturities.

Acronyms

CAMELS	**C**apital Adequacy, **A**sset Quality, **M**anagement Practices, **E**arnings Performance, **L**iquidity Position, and **S**ensitivity to Market Risk
ED	Examination Documentation
EVE	Economic Value of Equity
FIAP	Formal and Informal Action Procedures
FIL	Financial Institution Letter
IRR	Interest Rate Risk
NII	Net Interest Income
RMS	Division of Risk Management Supervision
ROE	Report of Examination
UFIRS	Uniform Financial Institutions Rating System
ViSION	Virtual Supervisory Information on the Net

Corporation Comments

FDIC

Federal Deposit Insurance Corporation
550 17th Street NW, Washington, D.C., 20429-9990 Division of Risk Management Supervision

March 7, 2016

TO: E. Marshall Gentry, Assistant Inspector General for Evaluations
Office of Inspector General

FROM: Doreen R. Eberley
Director

SUBJECT: Response to Draft Evaluation Report Entitled, *Interest Rate Risk Management Case Study* (Assignment No. 2015-019)

The Division of Risk Management Supervisions (RMS) has received and considered the draft evaluation report entitled *Interest Rate Risk Management Case Study* (the Report). The Report finds that RMS has taken a series of steps aimed at emphasizing the importance of effective interest rate risk management practices to mitigate the effects of adverse rate movements before they happen. These steps have included reiterating supervisory expectations, enhancing IRR offsite review efforts, and following up with risk-focused examination procedures to further understand institution-specific risks. The Report acknowledges that RMS is using forward-looking supervision practices to identify and assess the potential impact of interest rate volatility, and ensure early mitigation and corrective action if necessary.

RMS intends to continue its vigilant supervision of interest rate risk given recent market volatility and the challenges facing the domestic and global economies. While we primarily focus supervisory efforts on state non-member institutions, we continue to analyze risks at other insured depository institutions through our quarterly interest rate risk offsite review program and discourse with colleagues at the other federal banking agencies. Examiner training and professional development efforts will remain a priority to ensure our field staff has the knowledge and resources to prudently supervise rate sensitivity issues.

Thank you for the opportunity to review and comment on the draft Report.