FEDERAL RESERVE BANK
OF DALLAS

ROBERT D. McTEER, JR.
PRESIDENT
AND CHIEF EXECUTIVE OFFICER

September 28, 1993

DALLAS, TEXAS 75222

Notice 93-103

TO: The Chief Executive Officer of each member bank and others concerned in the Eleventh Federal Reserve District

SUBJECT

Request for Public Comment on Proposed Interagency Rule to Revise Risk-based Capital Guidelines

DETAILS

The Federal Reserve Board has requested public comment on an interagency notice revising risk-based capital standards to implement Section 305 of the Federal Deposit Insurance Corporation Improvement Act regarding interest rate risk (IRR).

The proposed rule is designed to ensure that banking institutions effectively measure and monitor interest rate risk and that this risk is adequately considered in the Board's risk-based capital standards. As part of this proposal, the Board is requesting comment on procedures for measuring IRR exposures and two alternative methods for determining the additional capital, if any, a bank may be required to have for interest rate risk.

The agencies sought public comment on a proposed framework for IRR in August 1992, and the current proposal has been revised to take account of the commenters' concerns and recommendations.

The Board must receive comments by October 29, 1993. Comments should be addressed to William W. Wiles, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, N.W., Washington, D.C. 20551. All comments should refer to Docket No. R-0802 and will be shared among the banking agencies.

ATTACHMENT

A copy of the Board's notice as it appears on pages 48205-43, Vol. 58, No. 176, of the Federal Register dated September 14, 1993, is attached.

MORE INFORMATION

For more information, please contact Dorsey Davis at (214) 922-6051. For additional copies of this Bank's notice, please contact the Public Affairs Department at (214) 922-5254.

Sincerely yours,

Robert D. McTeer, Jr.

federal register

Tuesday
September 14, 1993

Part III

Department of the Treasury

Office of the Comptroller of the Currency

Federal Reserve System

Federal Deposit Insurance Corporation

12 CFR Parts 3, et al.

Risk-Based Capital Standards: Interest Rate Risk; Proposed Rule

DEPARTMENT OF THE TREASURY

Office of the Comptroller of the Currency

12 CFR Part 3

[Docket No. 93–11]

FEDERAL RESERVE SYSTEM

12 CFR Part 208

[Docket No. R–0802]

FEDERAL DEPOSIT INSURANCE CORPORATION

12 CFR Part 325

RIN 3064–AB22

Risk-Based Capital Standards: Interest Rate Risk

AGENCIES: Office of the Comptroller of the Currency (OCC), Treasury, Board of Governors of the Federal Reserve System (Board), and Federal Deposit Insurance Corporation (FDIC).

ACTION: Notice of proposed rulemaking.

SUMMARY: The OCC, the Board, and the FDIC (the Banking Agencies) are issuing this proposed rule to implement the portion of section 305 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) that requires a revision of their risk-based capital guidelines to ensure that those standards take adequate account of interest rate risk (IRR). Other revisions to the risk-based capital standards as prescribed in section 305 of FDICIA are to be addressed in separate rulemakings.

This proposal would amend the Banking Agencies' capital adequacy standards to provide for consideration of IRR in the overall determination of a bank's minimum capital ratios. The intended effect of the proposal would be to ensure that banking institutions effectively measure and monitor their IRR and that they maintain adequate capital for that risk.

As part of the proposal, the Banking Agencies are publishing for comment procedures for measuring IRR exposures and two alternative methods for determining what amount of additional capital, if any, a bank may be required to have for interest rate risk. In addition, the Banking Agencies will recommend to the Federal Financial Institutions Examination Council (FFIEC) expanded Call Report requirements to facilitate the monitoring of IRR exposures of commercial banks.

The Banking Agencies sought public comment on a proposed framework for IRR in August, 1992. The current proposal reflects substantial modifications to that proposal in response to the concerns raised and recommendations made by commenters. The proposed amendments to the regulations differ among the Banking Agencies to take account of the existing regulatory structure at each Agency. Nonetheless, the proposed amendments are intended to have the same effect.

DATES: Comments must be received on or before October 29, 1993.

ADDRESSES: Interested parties are invited to submit written comments to any or all of the Banking Agencies. All comments will be shared among the Banking Agencies.

OCC: Written comments should be submitted to Docket No. 93–11, Communications Division, Ninth Floor, Office of the Comptroller of the Currency, 250 E Street, SW., Washington, DC 20219, Attention: Karen Carter. Comments will be available for inspection and photocopying at that address.

Board of Governors: Comments, which should refer to Docket No. R–0802, may be mailed to Mr. William Wiles, Secretary, Board of Governors of the Federal Reserve System, 20th and Constitution Avenue, NW., Washington, DC 20551. Comments addressed to Mr. Wiles may also be delivered to the Board's mail room between 8:45 a.m. and 5:15 p.m. and to the security control room outside of those hours. Both the mail room and control room are accessible from the courtyard entrance on 20th Street between Constitution Avenue and C Street, NW. Comments may be inspected in Room B–1122 between 9 a.m. and 5 p.m., except as provided in § 261.8 of the Board's "Rules Regarding Availability of Information," 12 CFR 261.8.

FDIC: Hoyle L. Robinson, Executive Secretary, Attention: Room F–400, Federal Deposit Insurance Corporation, 550 17th Street, NW., Washington, DC 20429. Comments may be hand-delivered to Room F–400, 1776 F Street NW., Washington, DC 20429, on business days between 8:30 a.m. and 5 p.m. [FAX number (202) 898–3838]. Comments will be available for inspection and photocopying in Room 7118, 550 17th Street, NW., Washington, DC 20429, between 9 a.m. and 4:30 p.m. on business days.

FOR FURTHER INFORMATION CONTACT:

OCC: Christina Benson, Capital Markets Specialist (202/874–5070), or Kurt Wilhelm, National Bank Examiner (202/874–5070), Office of the Chief National Bank Examiner; Kevin Jacques, Financial Economist, Economics and Evaluation (202/874–5220), and Ronald Shimabukuro, Senior Attorney, Bank Operations and Assets Division (202/874–4460), Office of the Comptroller of the Currency, 250 E Street, SW., Washington, DC 20219.

Board of Governors: James Houpt, Assistant Director (202/452–3358), James Embersit, Manager (202/452–5249), William Treacy, Supervisory Financial Analyst (202/452–3859), Division of Banking Supervision and Regulation; Scott G. Alvarez, Associate General Counsel (202/452–3583), Gregory A. Baer, Senior Attorney (202/452–3236), Legal Division, Board of Governors of the Federal Reserve System. For the hearing impaired only, Telecommunication Device for the Deaf (TDD), Dorothea Thompson (202/452–3544), Board of Governors of the Federal Reserve System, 20th and C Streets, NW., Washington, DC 20551.

FDIC: William A. Stark, Assistant Director (202/898–6972) or Sharon Lee, Capital Markets Specialist (202/898–6789), Division of Supervision; for legal issues, Claude A. Rollin, Senior Counsel (202/898–3985), Legal Division, Federal Deposit Insurance Corporation, 550 17th Street, NW., Washington, DC 20429.

SUPPLEMENTARY INFORMATION:

A. Background

1. Section 305 and the Basle Accord

IRR is the adverse effect that changes in market interest rates may have on a bank's financial condition. This risk is inherent to the business of banking. Section 305 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), Public Law 102–242, requires the Banking Agencies to revise their risk-based capital guidelines to take adequate account of IRR. FDICIA also requires the Banking Agencies to publish final regulations implementing section 305 and to establish transition rules to facilitate compliance with those regulations.

Section 305(b)(2) of FDICIA requires the Banking Agencies to discuss the development of comparable standards with members of the supervisory committee of the Bank for International Settlements (BIS), which has also been working on ways to incorporate IRR into the risk-based capital standard. The Banking Agencies are actively participating in that international effort. However, the time required for developing and implementing an international standard is uncertain and an international standard is as yet unavailable.

In implementing section 305 of FDICIA, the Banking Agencies seek to create a viable system for measuring IRR, while at the same time continuing

to work with international organizations to develop consistent international capital standards. Many elements of the supervisory measurement system proposed in this notice are consistent with, although not identical to, key elements of the approach being pursued internationally. At the time that an international agreement emerges, the Banking Agencies will revisit this approach in light of the international standard. Such reevaluation may occur during the biennial review of capital standards that is required by section 305 of FDICIA.

Comments are requested on all aspects of this proposal. Issues on which comment is specifically requested are identified in numbered questions in section D.

2. Advance Notice of Proposed Rulemaking (ANPR)

In August 1992, the Banking Agencies issued an ANPR soliciting comments on a framework for revising their risk-based capital standards to take adequate account of IRR, as well as approaches to address the risks arising from credit concentrations and nontraditional activities (57 FR 35507, August 10, 1992). The ANPR outlined a possible IRR measurement system and asked for comments on that system, including its use as a basis for determining a capital requirement.

The framework outlined was designed to ensure that banks with significant levels of IRR would have sufficient capital to cover their exposure. IRR exposures were quantified by a proposed supervisory risk measure that sought to estimate the economic effect of an interest rate change on the present value of a bank's net worth, rather than the effect on current or near-term earnings. This measure required banks to slot their assets, liabilities, and off-balance-sheet instruments into a maturity schedule based on each instrument's remaining contractual maturity or next repricing date. The proposed maturity schedule used six maturity ranges or time bands, with balances in each time band weighted by a risk factor, or "risk weight," that estimated the price sensitivity of the instrument to changes in market interest rates. The summation of these weighted values, the "Net Risk-Weighted Position," was used to estimate the change in a bank's equity value for a 100 basis point change in interest rates. This measure was to serve as the basis for determining a bank's IRR exposure for capital adequacy purposes. To mitigate concerns about the imprecision in measuring IRR and to recognize that some degree of IRR is inherent in banking activities, only those banks with relatively significant measured exposure would have been required to allocate capital for IRR. As proposed, banks with exposures in excess of a "threshold" level of measured risk equal to plus or minus 1.0 percent of assets were required to allocate capital in an amount equal to that excess exposure.

3. Responses to the ANPR

The Banking Agencies collectively received a total of 214 responses to the ANPR. Of these, 182 addressed the proposed framework for IRR while 32 addressed only issues relating to credit concentrations or nontraditional activities.

The letters on the IRR proposal expressed a wide and diverse range of opinions. Most commenters recommended modifications to, or expressed concern with, some aspect of the proposal. Many commenters acknowledged the need for the Banking Agencies to monitor and evaluate the level of interest rate risk taken by banks. However, many commenters did not believe that the framework, as proposed, would lead to more effective supervision of IRR. As a result of these comments and further analysis, the Banking Agencies have modified the framework outlined in the ANPR in important ways. The public comments and key changes are summarized below.

a. Public Comments

Most respondents focused on the use of the measure as the basis for determining a regulatory capital requirement for IRR. Many urged greater discretion and flexibility in its use and recommended that it be used as an examiner tool, rather than as the basis for a capital charge. Many institutions believed that the precision of the measure should be enhanced if it is to be used to determine a capital charge. Therefore, they requested greater sophistication in some areas which would increase complexity and require more information. Others, however, cited concerns with the complexity and reporting burden of the measure and requested an exemption test to exclude banks with low IRR from added reporting or capital requirements.

Many commenters argued against a standard supervisory model and set of assumptions for measuring IRR, often citing the diversity within the commercial banking industry caused by the size, location, or general nature of each bank's activities. Many institutions also cited the greater accuracy of their own risk measurement models and urged the Banking Agencies to rely more heavily on them. Some cautioned that imposing a capital charge based on a supervisory model might cause some institutions to make decisions in deference to that model even though the bank's internal analysis might indicate that other actions were advisable.

Many respondents also stated that certain assumptions made in the supervisory model were improper for their institutions and perhaps for the industry as a whole. For example, many criticized the proposed treatment of deposits that do not have specified maturities (referred to as non-maturity deposits). These deposits can be withdrawn at any time but are typically rather stable both in price and volume. They include demand deposits, money market demand accounts (MMDA), negotiable order of withdrawal (NOW) accounts, and savings deposits. Other comments regarding specific aspects of the proposed supervisory model included criticisms and recommendations on the interest rate scenario used and the construction of the risk weights.

b. Responses to Comments

In response to the comments received, the Banking Agencies are proposing a measurement of IRR exposure with major changes from that in the ANPR and are considering two alternative uses of the measured exposure. Major changes are summarized below. However, other changes also have been incorporated to increase accuracy or reduce regulatory burden.

(1) A proposed quantitative screen would exempt banks identified as potentially low-risk institutions from additional reporting and, most likely, from any capital requirement for IRR.

(2) Use of a bank's internal risk measure would be permitted for evaluating IRR when the methodology and key assumptions of that measure are deemed adequate by the appropriate Banking Agency. Examination guidelines and analytical tools would be provided to examiners for this purpose. Banks would be expected to maintain appropriate internal risk measurement systems consistent with their risk profiles.

(3) Various refinements have been made to the supervisory measure that would be used to evaluate IRR for non-exempt banks where internal models are not available or are deemed inadequate. These modifications include changes to the method for determining risk weights, the specific treatment of non-maturity deposits, the reporting of amortizing and non-amortizing financial instruments, and the addition of another time band to provide for greater

accuracy and consistency with existing Call Report information.

B. Discussion of Proposal

1. Overview

The Banking Agencies propose to modify their existing risk-based capital standards to provide for the explicit consideration of IRR when assessing the capital adequacy of an institution. This proposal addresses two elements: A measure of IRR exposure and an approach for assessing capital adequacy for IRR. Exposures to IRR would be measured as the effect that a specified change in market interest rates would have on the net economic value of a bank.[1] This economic perspective considers the effect that changing market interest rates may have on the value of a bank's assets, liabilities, and off-balance-sheet positions.

The Banking Agencies propose to measure an institution's exposure using either a supervisory model or the bank's own internal model. In either case, the results could be used in one or two ways when assessing capital adequacy for IRR. One approach would be to reduce an institution's risk-based capital ratios by an amount based on the level of measured risk. The other would be to use the measured exposure as only one of several factors in assessing the need for capital. The measurement systems and their possible uses are discussed in greater detail in sections that follow.

a. Structure of the Supervisory Model

The supervisory model would require banks to report their assets, liabilities and off-balance-sheet positions into time bands based upon their remaining maturities or nearest repricing dates. Each position would then be multiplied by an IRR "risk weight" developed by the Banking Agencies that represents the estimated sensitivity of the economic value of that position to a specified change in market interest rates. The risk-weighted positions of all balances would be summed to produce a net risk-weighted position. This net position represents the estimated change in the bank's net economic value and would be the primary quantitative measure used to assess a bank's level of IRR.

To avoid collecting information about the maturities, cash flows, coupons, and yields of each bank's assets, liabilities, and off-balance-sheet positions, the risk weights would be developed using hypothetical instruments that are deemed to be representative of the position being weighted. The risk weights developed would be the percentage change in the present value of those hypothetical instruments for the given interest rate change.

The structure, reporting requirements, and key assumptions of the model are discussed in section 3 below. The Banking Agencies believe that this basic measure can be useful for supervisory purposes in evaluating the IRR of many banks. However, the Banking Agencies recognize that this basic model would not offer the precision of many acceptable internal models and that certain types of financial instruments have risk profiles that may be difficult to incorporate accurately into this basic model. For these reasons, the Banking Agencies are proposing to make use of a bank's own model, if it is deemed accurate.

b. Use of a Bank's Internal Model

The Banking Agencies recognize that many banking institutions have sophisticated internal models for measuring IRR that take account of complexities not addressed in the basic supervisory model and that are tailored to circumstances at each bank. Consequently, the Banking Agencies propose to make use of a bank's own IRR model if it is deemed adequate by examiners. To make this determination, examiners would consider the types of instruments held or offered by the bank, the integrity of the data, and whether the assumptions and relationships underlying the model are reasonable.

The supervisory model and other analytical tools could be used to assist examiners in evaluating the adequacy of a bank's internal model. The other analytical tools would be developed by the Banking Agencies over time. Such tools might include an options-pricing model to assist in the evaluation of explicit and embedded option products and the capability to use more detailed coupon and maturity information in estimating market value sensitivities. As experience is gained with the basic model and these supplemental tools, the Banking Agencies may seek to refine the basic measure to include additional or more sophisticated measurement methodologies or models.

When examiners determine that the risk profile generated by a bank's internal model is an adequate measure of the bank's risk position, that measure would be used for supervisory purposes. The bank, however, would continue to report the proposed expanded Call Report information used in the supervisory model. In banks without internal models, examiners would reply on the supervisory model. If warranted by the size and complexity of the bank's activities, however, examiners may require an institution to have an adequate internal model in the interest of bank safety and soundness. This approach should create incentives for banks to improve their ability to measure risk.

When reviewing a bank's internal model, examiners would evaluate its analytical approach and underlying assumptions. To the extent the model contains material weaknesses or its assumptions are judged to be unreasonable, examiners may require the bank to modify its procedures before judging the model to be acceptable or, alternatively, may rely on results of the supervisory model. At a minimum, examiners would identify the components of an internal model that incorporate assumptions or calculations that differ significantly from those used in the supervisory model, assess the importance of these differences, and then determine whether the bank has a sufficient basis for its treatment. Examiners would also monitor changes to an institution's assumptions or calculation procedures over time in order to assure the on-going integrity of the measure.

If the Minimum Capital Standard approach is adopted, an institution may be required to base that calculation on the results of a more sophisticated internal model, if available. Such an institution would not be permitted to use the basic supervisory model to determine its exposure for capital purposes, but rather would have to use an internal model. This requirement would be based upon the size and complexities of an institution's activities and would reflect the recognition that the supervisory model may not fully capture the risks of certain types of financial instruments or activities. The Banking Agencies seek comment on the appropriateness of such a requirement and on the types and scopes of activities that should trigger it.

c. Threshold Level

When evaluating a bank's need for capital IRR, the Banking Agencies propose to focus on institutions with relatively high levels of measured risk. This focus on "outliers" reflects that view that a certain amount of IRR is inherent and appropriate in commercial banking, that the level of risk is difficult to measure precisely, and that IRR has not been a principal threat to the financial health of commercial banks in the past.

[1] The change in an institution's net economic value is defined as the change in the present value of its assets minus the change in the present value of its liabilities plus the change in the present value of its off-balance-sheet positions.

A threshold level representing a decline in net economic value equal to 1.0 percent of assets is proposed to account for measurement imprecision and some amount of IRR implicit in the current risk-based capital standard. Measured exposures resulting in a decline in value of less than the 1.0 percent of assets level would generally be considered insufficient to require capital, although examiners could determine otherwise in unusual circumstances. The Banking Agencies may need to reconsider this proposed threshold level when other aspects of the proposal have been decided. Moreover, since the threshold exists in part to account for measurement imprecision, the Banking Agencies also request comment on the merits of using a lower threshold when results of more accurate internal models are used to evaluate IRR.

d. Reporting Requirements

While the regulatory changes proposed are expected to result in changes to the Call Report, no paperwork changes are specifically contained in this rule. The examples of Call Report schedules are provided to assist the reader in analyzing the full implications of the proposal. They are not intended as proposed forms. However, realistically, if the agencies adopt the final rule substantially as proposed, the resulting changes to the Call Report will probably be similar to the models provided and to what is recommended by the Banking Agencies to the Federal Financial Institutions Examination Council (FFIEC). The agencies will submit any Call Report changes to OMB for review as required under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*). Opportunity for public comment is always provided in relation to such a submission. Nevertheless, the agencies invite comments regarding the paperwork implications of this notice of proposed rulemaking, and will carefully consider any comments received in the development of the final rule, as well as in the development of proposed revisions to the Call Report.

To collect the information necessary to monitor the level of IRR and assess the need for additional capital at banks that may have significant exposures, the Banking Agencies believe that additional Call Report information will be needed. Accordingly, the Banking Agencies seek comment on a Call Report schedule currently under consideration which would provide information necessary for calculating the supervisory measure. The FDIC would also replace supplemental Schedule RC–J, currently completed only by FDIC-supervised savings banks, with this new Call Report schedule. All FDIC-supervised savings banks would complete the new Call Report schedule and would not be afforded the reporting exemption as described in section E below. Comment is also requested on a second schedule that would be completed only by banks that elect or that may be required to use the results of their internal models. This second schedule would be required only if the Banking Agencies relied on the information to provide an explicit capital charge for IRR and would not be needed if the measured exposure was considered only as one element of broader guidelines for assessing capital adequacy for IRR.[2]

The proposed reporting schedules (Schedules 1 and 2) are illustrated and discussed in sections 3 and 4 below.

e. Reporting Exemptions

To minimize the reporting and other regulatory burdens associated with this proposal, the Banking Agencies propose to exempt from any additional reporting requirements institutions that meet certain criteria associated with "low-risk" institutions. The Banking Agencies propose that an institution would have to meet the following two criteria to qualify for such an exemption:

(1) The total notional principal amount of all of the institution's off-balance-sheet interest rate contracts[3] does not exceed 10 percent of its total assets; and

(2) 15 percent of the sum of the institution's fixed- and floating-rate loans and securities that mature or reprice beyond 5 years is less than 30 percent of its total capital.

The first criterion evaluates whether an institution has a significant amount of off-balance-sheet obligations that may warrant further scrutiny. The second criterion tests whether a significant decline in the market value of those assets most exposed to changing interest rates would reduce the institution's capital substantially.

To qualify for the reporting exemption, banks would need to meet these criteria at each quarterly Call Report date. Based on data for December 31, 1992, approximately 8,400 institutions with about 30 percent of U.S. commercial bank assets would meet these criteria. However, the Banking Agencies reserve the right to require an institution to report the additional information even if the institution satisfies these criteria. If a previously exempted bank fails to meet these criteria, or otherwise becomes non-exempt, it would be required to report the additional data at the next two Call Report dates, regardless of its future exemption status. Therefore, exempted banks would need to ensure that they are able to provide the requested information, if necessary.

Although exempted banks would not be required to report any additional data, they would be expected to maintain adequate policies and procedures for measuring, controlling, and managing interest rate risk.

f. Implementation Schedule

The Banking Agencies propose to require the additional reporting by non-exempt banks beginning with the March 1994 Call Reports. Full implementation of the guidelines for assessing the adequacy of bank capital would be effective December 31, 1994. However, the Banking Agencies also propose that examiners apply these standards on an advisory basis beginning with examinations commencing after December 31, 1993, to the extent that data are reasonably available.

Comments are requested on all aspects of the proposal, including the suggested implementation schedule.

2. Major Considerations in Measuring Interest Rate Risk

Obtaining meaningful results from either the supervisory or internal models requires appropriate treatment of three critical elements:

(1) The interest rate scenario used to measure the effect of changing rates;

(2) The asymmetrical rate sensitivity that results for certain bank products when both rising and falling interest rate scenarios are considered; and

(3) The treatment of non-maturity deposits, i.e., demand deposits, NOW and savings accounts, and MMDAs.

Another important consideration, especially when evaluating the risk of an individual bank that is part of a multi-bank holding company, is the relationship of that bank's exposure to positions held by its parent or other affiliated institutions. Each of these issues is discussed below.

a. Interest Rate Scenario

The interest rate scenario used to determine risk weights should cover an appropriate range of possible interest rate changes and reflect these factors:

(1) A time horizon over which institutions and supervisors can reasonably be expected to identify an institution's risk and implement

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[2] The Banking Agencies may choose to treat the proposed second schedule as confidential.

[3] Off-balance-sheet interest rate contracts are those reported on Schedule RC–L items 11.a., 11.b., 11.c.(1) and 11.c.(2) of the Consolidated Report of Financial Condition.

meaningful and loss-limiting responses, taking into account both the frequency of reporting and examinations; and

(2) An appropriate probability of occurrence, as reflected by the historical volatility of market interest rates over the chosen time horizon.

The chosen time horizon is an important determinant of the size of the specified rate change. In general, a shorter time horizon implies a smaller potential rate change; generally, nominal rate changes based on quarterly time horizons are roughly one half of those derived from annual time horizons. A quarterly interval would correspond to the regulatory reporting cycle and may also allow sufficient time for bank management to identify and reposition an interest rate risk exposure.

However, an annual or semi-annual time horizon may better reflect the time necessary for management to recognize trends in interest rates and determine an appropriate response, and for the results of management's actions to be reflected to a material degree in the bank's positions. It may also be more appropriate than a quarterly time horizon given the sluggishness of non-maturity deposit rates to respond to market changes.

The Banking Agencies recognize that interest rate volatility varies with different maturities and that this volatility generally increases with the level of rates (i.e., that volatility is roughly proportional to the absolute level of rates).[4] Holding other factors the same, longer-term rates are typically less volatile than short-term rates.

	Monthly changes	Quarterly changes	Annual changes
3 Mo	.0711	.1515	.2949
1 Yr	.0642	.1358	.2665
2 Yr	.0574	.1200	.2327
5 Yr	.0468	.0978	.1953
7 Yr	.0424	.0880	.1827
10 Yr	.0393	.0810	.1733
30 Yr	.0346	.0721	.1590

The observed range of historical movements in interest rates over the selected time horizon will differ depending on the sample period used. Volatility experienced over a long sample period (e.g., the past 15 years) could be significantly different from that experienced over a shorter sample period (e.g., the prior 3 to 5 years). Longer sample periods could be used to ensure that the estimated volatilities reflect the full range of potential changes in rates over entire interest rate cycles and thus, might be more representative than shorter sample periods. On the other hand, shorter and more recent sample periods would better reflect prevailing rates and volatilities.

The Banking Agencies solicit comments on the appropriate time horizon, volatility measure and historical sample period to use in developing an interest rate scenario for assessing interest rate risk exposures. Specifically, comments are sought on alternative methodologies for determining scenarios. The first alternative measures historical volatility using nominal basis point changes in market rates. For example, a change in the 6-month rate from 3.0 percent to 3.5 percent would be measured as a movement of 50 basis points, as would a change from 10.0 percent to 10.5 percent. Scenarios would be based on two standard deviations (covering 95 percent of the observations) of quarterly basis point changes over a selected sample period—for example, 5 years.

A second alternative measures historical volatility as a proportion by which rates change. For example, the same increase from 3.0 to 3.5 percent would be measured as a movement of 16.6 percent of the initial rate (i.e., 0.005/0.03) whereas the increase from 10.0 to 10.5 percent would be measured as a change of 5 percent (0.005/.10).[5] Under this alternative, a volatility factor covering two standard deviations of the distribution of proportional rate changes over the sample period would be applied to the prevailing level of rates at each point along the yield curve. A 30.0 percent proportional rate change represents roughly two standard deviations of quarterly movements of 3-month instruments, or annual movements of 30-year instruments observed during the period 1977 to 1992. This "volatility factor" would produce a 90 basis point change if applied to a market rate of 3.0 percent (0.300.03). The same factor, if applied to a 10.0 percent market rate, would produce a 300 basis point change (0.300.10).

Possible interest rate scenarios using both alternative methods and quarterly and annual time horizons are shown below:

Maturity	Scenarios using nominal change		Scenarios using proportional change	
	Quarterly horizon (Col. 1)	Annual horizon (Col. 2)	Quarterly horizon (Col. 3)	Annual horizon (Col. 4)
0–3 Months	115 bp	320 bp	100 bp	190 bp
3–12 Months	120 bp	300 bp	100 bp	190 bp
1–3 Years	130 bp	250 bp	110 bp	210 bp
3–5 Years	125 bp	200 bp	115 bp	235 bp
5–10 Years	110 bp	170 bp	110 bp	235 bp
10–20 Years	100 bp	140 bp	110 bp	235 bp
Over 20 Years	80 bp	130 bp	110 bp	240 bp

Columns 1 and 2 illustrate scenarios using nominal changes in rates for a quarterly and an annual time horizon, respectively, as exhibited during the past five years. Columns 3 and 4 illustrate the rate changes derived using volatility factors for quarterly and annual time horizons, respectively, applied to the average level of rates during the fourth quarter of 1992. The relative uniformity of rate changes across the term structure under the proportional methodology (columns 3 and 4) reflects the steepness of the yield curve during that quarter; the sharply

[4] Based on the following standard deviations of the percent change in rates on U.S. Treasury securities estimated over the period 1977 to 1992, one standard deviation of annual rate changes in the 3-month Treasury Bill is approximately 29.5% of the outstanding 3-month Bill rate. One standard deviation of annual changes for the 30-year U.S. Treasury bond is roughly 15.9% of the prevailing 30-year bond rate. The corresponding absolute changes in rates depend on the level of rates to which the percent change is applied.

[5] Under current industry convention, proportional volatility is expressed as a percent change in the level of a given market interest rate. This can create some confusion, in that it represents a "percent of a percent." Alternatively, the volatility can be considered to be a multiple of the level of a market rate (e.g., 30 percent of the rate is the same as .30 of the rate).

higher level of longer-term rates more than offsets the effect of their lower proportional volatility. A less steep yield curve would generally produce smaller changes for long-term rates than those for short-term rates.

Currently, the results under either proposed methodology indicate rate changes that are about 100 basis points using a quarterly time horizon and 200 basis points using annual volatilities. In the interest of simplicity, the Banking Agencies also seek comment on the use of a parallel 100 or 200 basis point shift. For purposes of this proposed rulemaking, a simple 200 basis point shift is illustrated in the proposed amendments to the regulations of the Banking Agencies.

Whichever rate scenario is selected, the rate change would be treated as an instantaneous movement in market interest rates and would be used for both the supervisory and internal models for purposes of assessing capital adequacy. The selected rate scenario would be reconsidered periodically as market conditions change. However, it is the intent of the Banking Agencies to minimize changes to the specified scenarios. Therefore, barring extenuating circumstances, the Banking Agencies propose to make changes to the specified scenarios no more frequently than annually.

b. Rising and Falling Rate Scenarios

Another issue is whether the Banking Agencies should evaluate IRR under scenarios reflecting both rising and declining market interest rates. The interest rate sensitivity of many financial instruments can differ, in amount, under rising and declining rate scenarios. This difference can reflect differences in consumer behavior as well as management's pricing strategies. Evaluating exposures for both rising and declining rate scenarios would allow consideration of the asymmetry in a bank's assets, liabilities and off-balance-sheet items. Although banks can face potential losses in economic value under either situation, historically a rising rate environment has been more threatening to depository institutions. Important exceptions include institutions that have purchased large amounts of mortgage servicing rights, that hold large volumes of certain types of high-risk mortgage derivative instruments, or that have created certain types of exposures in off-balance-sheet positions.

One possible approach, reflected in the proposed rule, would be to evaluate exposures to both rising and declining rates. Internal models could estimate the change in economic value for both scenarios. For the supervisory model, different risk weights would be used for the rising and declining rate scenarios to reflect the asymmetric behavior of certain instruments. In the interest of avoiding complexity, another approach would be to consider only the risk of rising rates in the supervisory model and to address exposure to declining rates during on-site examinations. Comments are requested regarding the burden associated with either approach.

c. Treatment of Non-Maturity Deposits

The treatment of deposits without specific maturity or repricing dates may be one of the most important elements in calculating an institution's level of IRR exposure, whether an internal model or the basic supervisory measure is used. For purposes of calculating the supervisory measure, the Banking Agencies propose to permit banks limited flexibility in distributing their non-maturity deposits among time bands. Within these limits, banks would distribute the balances as they believe most appropriately reflects the price sensitivity of these deposits. Banks using their own models would be subject to the same effective maturity ranges when estimating the sensitivity of their deposits. Details on the proposed maturity ranges that would be allowed are provided in section 3 below under the discussion of "Reporting for Non-Maturity Deposits."

Considering the inherent difficulties in determining the appropriate treatment of non-maturity deposits, the Banking Agencies solicit comment and any relevant empirical evidence on the price sensitivity and market valuation of these deposits. Information relevant to assessing the changes in the market value of these deposits relative to changing interest rates would be most helpful. The Banking Agencies also seek comment on whether banks that have well reasoned and documented calculations showing rate sensitivities that are outside the proposed supervisory ranges should be allowed to use those calculations. Of particular interest are the specific types of analyses that should be required from banks to support such calculations.

d. Multi-bank Holding Companies

Banking organizations manage the IRR of their bank and nonbank subsidiaries in a variety of ways. Techniques include managing risk separately for each subsidiary depository institution and nonbank affiliate, on a consolidated basis for all banking entities, or on a fully consolidated basis for the holding company and all its subsidiaries.

Although recognizing these diverse practices, the Banking Agencies propose that each subsidiary depository institution report its assets, liabilities and off-balance-sheet positions separately (provided that the subsidiary is not exempted from the reporting requirement based on the criteria described in section 1 above). Multi-bank holding companies that use their own models also would need to calculate the exposure of each individual bank, although the actual calculation could be done by staff at the corporate or lead-bank level. This procedure will allow the Banking Agencies to monitor the IRR exposure of individual banks and to evaluate the ability of the banks to manage their measured levels of risk. This approach seems most consistent with the structure of existing capital standards and legislative requirements.

3. Description of Supervisory Model

a. General Comments

This section describes the structure, possible reporting requirements, and key assumptions and procedures of the proposed supervisory model. The measurement system is designed to minimize reporting burdens while meeting the supervisory need to estimate the extent to which the net economic value of an institution would change under a specified change in market interest rates. As such, it is not intended to replace other, more sophisticated procedures that banks may use in their risk management process.

A key component of the proposed supervisory system is a set of "risk weights" that—when applied to reported asset, liability and off-balance-sheet positions—estimates the sensitivity of the present value of each position to a specified change in interest rates. The sum of all weighted values of a bank's assets, liabilities and off-balance-sheet positions represents the amount by which the bank's net economic value is estimated to change, given an assumed change in interest rates. This number, called the "Net Risk-Weighted Position", is the primary quantitative measure that would be used to evaluate an institution's exposure to IRR.

b. Information Requirements

Use of the supervisory measurement system requires information on the maturity and repricing characteristics of an institution's assets, liabilities and off-balance-sheet positions. As described in section 1 above, an IRR reporting exemption would be granted to

institutions meeting certain criteria. Non-exempt institutions and FDIC-insured savings banks would be required to report maturity and repricing information for both on- and off-balance-sheet items in a Call Report schedule such as that illustrated in Schedule 1. Non-exempt commercial banks would no longer need to report the similar maturity and repricing data currently collected on the memoranda items of Schedules RC–B, RC–C, and RC–E. Exempt institutions with the exception of FDIC-insured savings banks, however, would continue to report these memoranda items.

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Proposed Interest Rate Risk Schedule

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Schedule 1

(to be completed by non-exempt institutions only)

Maturity and repricing data:
Please break out the following items according to their remaining term to maturity or time to repricing.

Dollar Amounts in Thousands	Total			Up to 3 months			> 3 months and < = 1 year			> 1 year and < = 3 years			> 3 years and < = 5 years			> 5 years and < = 10 years			> 10 years and < = 20 years			> 20 years		
	Bil	Mil	Thou	Bil	Mil	Thou	Bil	Mil	Thou	Bil	Mil	Thou	Bil	Mil	Thou	Bil	Mil	Thou	Bil	Mil	Thou	Bil	Mil	Thou
1 Securities:																								
a. Adjustable-rate mortgage securities.		1	000			0		1	000			0			0									
b. Fixed-rate mtgs, asset-backed securities.		11	750			0			0		1	100			0			0		3	250		7	400
c Zero or low coupon securities.		3	000		1	000		1	000		1	000			0			0			0			0
d. High-risk mortgage securities.		3	000																					
e. All other securities.		59	208		7	000		12	150		4	475		6	720		10	564		8	837		9	462
2. Loan and Leases:																								
a. Adjustable-rate mortgages.		6	000		4	000		2	000			0			0									
b. Fixed-rate mtg, consumer loans.		23	420		1	500		1	950		2	950		4	166		6	620		3	204		3	030
c All other loans (C&I, etc.)		61	198		15	672		11	382		21	136		13	008			0			0			0
3 All Other Int-Bearing Assets (Bal. Due, Fed Funds)		1	450		1	450			0			0			0			0			0			0
4 Liabilities:																								
a. Time deposits.		71	070		21	433		31	862		8	621		9	090			64			0			0
b. All other (include repos and sub. debt).		14	258		1	650		6	433		6	175			0			0			0			0
c MMDAs & DDAs rising rates.		59	287			0		36	287		23	000			0			0			0			0
d. NOWs & savings - rising rates.		21	525			0			0		13	525		8	000			0			0			0
e MMDAs & DDAs - declining rates.		59	287		11	500		36	287		11	500			0			0			0			0
f NOWs & savings - declining rates.		21	525		4	000		3	000		13	525		1	000			0			0			0
5 Off-Balance-Sheet Positions:																								
a. Swaps, futures, FRAs, etc.			0		3	000			500		-3	050			-450			0			0			0
b. Options, caps, floors, etc.			0		1	000			0		-1	000			0			0			0			0
c Mortgages & other amortizing instruments.			0		1	000			0		-1	000			0			0			0			0
6. Trading Account:																								
a. Cash positions.		12	975		2	550		4	900		5	525			0			0			0			0
b. Off-balance-sheet positions.			0			0			0			0			0			0			0			0

Memoranda	Carrying Value			Rising Rates			Declining Rates		
1 High-Risk Securities Evaluated.		2	000		2	160		1	800
2. High-Risk Securities Not Evaluated.		1	000						

Revision Date: 09/02/93

BILLING CODE 4810-33-C; 6210-10-C; 6714-01-C

The reporting format being proposed would require institutions to report assets, liabilities and off-balance-sheet items across seven maturity ranges (time bands) based on the time remaining to maturity or next repricing date. The proposed time bands are:

- Up to 3 Months,
- 3 to 12 Months,
- 1 to 3 Years,
- 3 to 5 Years,
- 5 to 10 Years,
- 10 to 20 Years,
- Greater than 20 years.

In the interest of minimizing reporting burdens, no coupon or yield data would be collected. Rather, the supervisory model would apply general assumptions regarding coupon rates and other characteristics of the underlying assets, liabilities, and off-balance-sheet instruments in developing the interest rate sensitivity weights. When used as an alternative, internal models would be expected to reflect actual coupons and yields of the specific holdings of the institution.

Reporting for assets. The price sensitivity of a financial instrument is determined by the instrument's cash flow characteristics. Accordingly, maturity and repricing data on most assets would be collected in one of four categories that reflect different types of cash flows:

- Adjustable-rate mortgages (ARMs) and mortgage securities;
- Fixed-rate mortgage securities, asset-backed securities, fixed-rate mortgages, consumer loans and other easily identifiable instruments that involve scheduled periodic amortization of principal;
- Zero or low coupon securities with either no periodic interest payments or interest coupons of 2 percent or lower; and
- All other instruments, which are assumed to involve scheduled periodic payments of interest and the payment of principal at maturity.

As proposed, those ARMs tied to a current market index (e.g., Constant Maturity Treasury rates) would be reported in the time band according to their next repricing date. ARMs tied to a lagging index (e.g., 11th District Cost of Funds) have greater price sensitivity owing to the lagging nature of their repricing behavior. These instruments would be reported in the 3 to 5 year time band to reflect this price sensitivity.

Only outstanding principal balances would be distributed across the time bands. This distribution would be based on each instrument's remaining contractual maturity or repricing date. A bank's own estimate of expected cash flows would not be reported. Instead, the Banking Agencies would incorporate the rate of anticipated prepayments on amortizing instruments, such as residential mortgages and mortgage pass-through securities, into the IRR risk weights using standardized assumptions and market expectations.

Mortgage derivative products would be treated differently. Under the FFIEC Policy Statement on Securities Activities, mortgage derivative products are defined as stripped mortgage-backed securities, tranches of collateralized mortgage obligations (CMOs) and real estate mortgage investment conduits (REMICs), CMO and REMIC residual securities and other instruments having the same characteristics as these securities. In general, banks would report "high-risk" mortgage derivative products differently from those that are "nonhigh-risk."[6] Banks would report only the total carrying value of "high-risk" mortgage derivative products that are held for sale. A memorandum item would be used to collect information on the interest rate sensitivity of these instruments. All other mortgage derivative products would be classified as "nonhigh-risk" and would be distributed across the time bands of the proposed reporting form, in the "All Other Securities" category, according to their current average life as calculated by bank management.[7]

Time deposits held at other institutions, Federal funds sold, Securities Purchased Under Agreement to Resell (i.e., reverse repurchase agreements) and other interest-bearing assets would also be reported in the proposed reporting form as a single line item.

Reporting for time deposits and purchased funds. All time deposits and other interest-bearing liabilities with well-defined maturities—such as Federal funds purchased, securities sold under agreement to repurchase and other borrowed funds—would be distributed across the time bands of Schedule 1 in the "All Other" category.

Reporting for non-maturity deposits. The Banking Agencies are proposing uniform rules for distributing deposits without well-defined maturities or repricing dates (demand deposits, MMDAs, NOWs and savings deposits) across the time bands. These proposed rules would specify the longest time band that could be used for each type of deposit and the maximum percentage amount that could be slotted into that time band. Institutions would distribute such deposits across the time bands according to their individual assumptions and experience, subject to the following constraints:

- Demand deposits and MMDAs may be distributed across any of the first three time bands, with a maximum of 40 percent of these balances in the 1 to 3 year time band; and
- Savings and NOW account balances may be distributed across any of the first four time bands, with a maximum of 40 percent of the total of these balances in the 3 to 5 year time band.

As was noted in section 2 above, the Banking Agencies are proposing to measure a bank's IRR exposure under both a rising and falling rate scenario. These deposit slotting rules would allow an institution some flexibility to slot deposits with undefined maturities differently for rising and falling rate scenarios.

Reporting for off-balance-sheet positions. Institutions would be required to distribute off-balance-sheet positions among the time bands of Schedule 1. The Banking Agencies expect banks that engage in a significant amount of off-balance-sheet activities to have internal systems, including options pricing models as appropriate, that can properly value the types of transactions they use in their risk management activities. Accordingly, the Banking Agencies propose to allow banks to estimate the interest sensitivity of off-balance-sheet instruments using internal models. If a separate Call Report schedule for reporting internal model results is not adopted or required (see discussion in section 4 below), the

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[6] Effective February 10, 1992 the Banking Agencies and the Office of Thrift Supervision adopted revised supervisory policies on securities activities that were developed under the auspices of the FFIEC. The revised policies established a framework for identifying "high-risk mortgage securities" which must be reported as securities held for sale or for trading. A "high-risk mortgage security" is defined as any mortgage derivative product that, at the time of purchase, or at a subsequent date, meets any of the following tests:

(1) *Average Life Test:* The mortgage derivative product has an expected weighted average life greater than 10.0 years.

(2) *Average Life Sensitivity Test:* The expected weighted average life of the product:

(a) Extends by more than 4.0 years, assuming an immediate and sustained parallel shift in the yield curve of plus 300 basis points, or

(b) Shortens by more than 6.0 years, assuming an immediate and sustained parallel shift in the yield curve of minus 300 basis points.

(3) *Price Sensitivity Test:* The estimated change in the price of the mortgage derivative product is more than 17 percent, due to an immediate and sustained parallel shift in the yield curve of plus or minus 300 basis points.

In general, a mortgage derivative product that does not meet any of the three tests is considered to be a "nonhigh-risk mortgage security."

[7] All underlying assumptions used in calculating the average life of these instruments must be reasonable and available for examiner review. For example, if an institution's prepayment assumptions differ significantly from the median prepayment assumptions of several major dealers as selected by examiners, the examiners may use these median prepayment assumptions in determining the appropriate average life of the instrument.

results of these internal models could be incorporated as a memorandum item on Schedule 1. These models would be reviewed by examiners as part of the examination process and exposures based on internal models would be used for supervisory purposes when available and deemed acceptable to the examiner. Comment is requested on the reporting burden associated with distributing off-balance-sheet positions among time bands, when results of internal models are also provided.

With regard to reporting off-balance-sheet positions in the proposed maturity reporting schedule, those with option characteristics (e.g., swaptions, caps, floors and options) would be reported separately from those representing firm commitments (e.g., swaps, futures, and forward-rate agreements). Mortgage-related fixed-rate commitments and other off-balance-sheet derivative instruments whose value depends on the value of an underlying asset or index with amortizing characteristics also would be reported separately.

Futures, forwards, options and firm commitments to buy or sell loans and securities would be reported using two entries, with one entry reported in the time band corresponding to the settlement date of the contract plus the maturity of the underlying instrument, and an offsetting entry of opposite sign slotted in the time band corresponding to the settlement date of the contract. Interest rate swaps, and floors would also be reported using two separate entries, with one entry reported in the time band corresponding to the maturity of the instrument and an offsetting entry in the time band corresponding to the next repricing of the floating side of the instrument.

The dollar entries reported for firm commitments would equal the national principal values of the instruments. The dollar entries reported for instruments with option characteristics would be derived using one of two alternative methods. The first method, reflected in the proposed rule, would require the reporting of positions using delta-equivalent values.[8] The second reporting alternative would require the reporting of position only if, on the report date, the index rate or the rate to be received is within 100 basis points of the strike rate (price). If the position is reported, the notional value would be used. Comment is requested on this reporting methodology as well as the use of delta-equivalent values for off-balance-sheet positions with option characteristics.

Reporting for trading account positions. Institutions would be required to distribute trading account securities, including off-balance-sheet positions associated with the trading account, by maturity in the rows and columns specified in Schedule 1. As with off-balance-sheet instruments, the Banking Agencies propose to allow banks to use and report the results of internal models for estimating the interest rate sensitivity of trading portfolios. This information would be collected either through the proposed separate Call Report schedule or through a memorandum item on Schedule 1. Comment is requested on the reporting burden associated with distributing trading account positions among time bands when results of internal models are also provided.

The Banking Agencies would expect banks to have prudential internal risk limits and effective risk measurement systems for their trading activities. For banks with significant trading operations, the adequacy and results of those systems will be closely reviewed by examiners and would be incorporated into their assessment of the bank's overall risk position.

The Basle Committee on Bank Supervision is also considering methods of evaluating IRR in trading accounts and determining appropriate capital requirements. This work, which relates to activities of internationally active banks could affect the treatment for trading activities for U.S. banks if it leads to an international agreement.

Memoranda items for "High-Risk Mortgage Securities". Under revised supervisory policies on securities activities that became effective on February 10, 1992, institutions must evaluate at least quarterly whether their holdings of high-risk mortgage securities reduce interest rate risk. The reporting form takes advantage of the availability of this information by allowing an institution to report, in a memorandum item, the current carrying value of high-risk mortgage derivative products that are held for sale along with the estimated changes in market value for the specified interest rate scenario. Such data would be used directly in calculating an institution's IRR exposure.

Mortgage derivative securities that were purchased prior to February 10, 1992 and meet the high-risk tests are subject to previously existing supervisory policies and are, therefore, not subject to the quarterly IRR risk evaluation criteria. For such holdings, institutions would have the option to: (1) Report the interest rate sensitivity of these holdings in a similar fashion as post-February 10, 1992, purchases; or (2) report only the current carrying value of those securities. Balances reported under the second option would be assumed to have significant price volatility, similar to long dated, zero or low coupon instruments. However, unlike zero coupon and most other debt instruments, the prices of certain high-risk mortgage securities do not always move in the opposite direction of a change in market interest rates (i.e., decline in price when interest rates rise or increase in price when interest rates decline). Because the directional change in the price of these securities is difficult to ascertain unless the specific cash flows of each security are reported, the Banking Agencies propose to assume that the balances reported under the second option will depreciate in value under both a rising and a falling interest rate scenario. To reflect this assumption, the balances would be assigned the risk weight that is applied to long-term, zero or low coupon securities under the rising interest rate scenario. The Banking Agencies request comment on the reasonableness of this approach. For illustrative purposes, the example bank in Schedule 1 that has $3 million in high-risk mortgage derivative securities has elected to report only the current carrying value for $1 million of securities that would otherwise meet the current high-risk tests but were purchased prior to February 10, 1992.

Reporting for multi-bank holding companies. As noted in section 2 above, the Banking Agencies propose that each subsidiary depository institution report its assets, liabilities and off-balance-sheet positions separately.

Reporting of foreign currency positions. The Banking Agencies propose that positions not denominated in U.S. dollars be converted into U.S. dollar equivalents using prevailing exchange rates and reported along with all other on- and off-balance-sheet positions on the same reporting form. Although this treatment ignores imperfect correlation among exchange rates, it avoids the complexity entailed by separate reporting for each currency, and the need to derive and distribute correlation statistics to reporting banks.

However, a basic supervisory principle in evaluating bank management is that an institution's policies, procedures and general capabilities should be consistent with the nature of the bank's business.

[8] The delta value of an option represents the expected change in the option's price as a proportion of a small change in the price of the underlying instrument. An option whose price changes by $1 for every $2 change in the price of the underlying instrument has a delta of 0.5. The delta-equivalent value of an option position is equal to the option's current delta multiplied by its principal or notional value.

Accordingly, examiners would expect institutions that have significant positions denominated in foreign currencies or that conduct significant foreign exchange transactions to have the capability to measure and assess the related risks. Examiners would consider both the adequacy and result of a bank's internal risk measure, along with other available information, in the overall evaluation of the bank's model. When appropriate, internal models should take adequate account of changes in foreign exchange rates.

c. Derivation of Risk Weights

In the proposed measurement system, reported positions would be multiplied by an IRR weight. Each risk weight is constructed to approximate the percentage change in value of the position resulting from a specified change in interest rates. The risk weights are based on the percentage change in present value (i.e., price) of hypothetical instruments, as calculated using static cash flow analysis. Such weights directly incorporate convexity for the rate scenario.[9] These weights also facilitate the measurement of options in certain types of assets, such as the prepayment option in mortgage loans.

The risk weights used would depend on the interest rate scenario for which the change is measured. As discussed above, comments are being sought on alternative methodologies for determining supervisory interest rate scenarios and whether these scenarios should include both rising and falling rates.

If both a rising-rate and declining-rate scenario are used, as reflected in the proposed rule, separate risk weights would be calculated to account for the asymmetrical price behavior of various bank assets, liabilities and off-balance-sheet instruments. An alternative and simpler approach would use the same risk weights for both rising and declining rate scenarios. The Banking Agencies seek comment on whether the distortions introduced by such a simpler approach are meaningful within the overall context of the supervisory model.

In general, the set of risk weights used for each scenario would consist of:

- Seven "Amortizing" risk weights (i.e., one for each time band) to be used for mortgages, pass-through mortgage securities, asset-backed securities, consumer loans and amortizing off-balance-sheet instruments;
- Seven "Zero or Low Coupon" risk weights;
- Seven "All Other" risk weights; and,
- Seven liability risk weights.

Bank supervisors would construct risk weights using hypothetical market instruments that are representative of the category being measured. The instruments chosen would vary depending on the category of instrument and the time band. A 30-year mortgage pass-through security with the composite characteristics (e.g., gross and net coupons, original and remaining maturity) of a current coupon, 30-year conventional mortgage pass-through security at par value would be used to estimate the price change for fixed-rate mortgages and mortgage securities reported in the greater than 20 year time band. Similarly, a current coupon 15-year conventional mortgage pass-through security would be used to estimate the risk weight for mortgages and mortgage securities reported in the 10 to 20 year time band. For the 5 to 10 year time band, a current coupon 15-year mortgage pass-through security with a remaining maturity equal to 7.5 years would be used.

For amortizing instruments with maturities less than 5 years, a hypothetical monthly amortizing instrument would be used that had these characteristics: (1) An original maturity equal to the end point of the specific time band; (2) a remaining maturity equal to the midpoint of the time band; and (3) a coupon and yield equal to the effective yield on the industry's earning assets.[10]

An important consideration in estimating the price sensitivity of amortizing instruments is the change in prepayments as interest rates change. In calculating the risk weights from the 15- and 30-year fixed-rate mortgages, expected prepayments would be applied in each rate scenario in accordance with a consensus of market prepayment estimates. Amortizing instruments with maturities of less than 5 years would be assumed to represent consumer installment loans with prepayment rates of approximately 1.0 percent (1 percent ABS) of outstanding principal per month.[11]

The risk weights for the "All Other" category would be calculated assuming semi-annual interest payments, a maturity equal to the mid-point of each time band, and an assumed coupon and yield equal to the effective yield on the industry's earning assets in 1992. Similarly, the "Zero or Low Coupon" risk weights are calculated using the percentage change in the price of a zero coupon instrument with an assumed maturity equal to the mid-point of each time band and the same industry average effective yield assumed above.

Only one set of risk weights would be used for liabilities: The percentage price change for a semi-annual interest-bearing instrument with an assumed coupon and yield equal to the effective yield on interest bearing liabilities.[12]

For illustrative purposes, Table 1 shows the risk weights developed for a 200 basis point parallel shift in interest rates, as well as the parameters used to derive them. The specific risk weights used to evaluate exposures would be derived in a similar fashion when the Banking Agencies adopt a specific supervisory scenario. In the illustration risk weights for both a rising and declining interest rate scenario have been constructed. Under the proposed measurement system, the Banking Agencies expect that the risk weights would be reasonably stable over time so as to facilitate a bank's risk management and capital planning. However, they may need to be adjusted periodically as market conditions, or as part of the biennial review of risk-based capital required biennial review of risk-based capital required by section 305(a) of FDICIA.

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[9] Convexity refers to the non-linear price/yield relationship of fixed-rate financial instruments. Instruments without option features, such as Treasury notes, have positive convexity, meaning that as the price of the instrument falls, its yield will increase by a proportionately greater amount. Other instruments, such as certain mortgage-backed securities, have negative convexity.

[10] For 1992 the average effective yield on earning assets at all commercial banks was approximately 8.5 percent.

[11] ABS stands for Asset-Backed Security. 1 percent ABS assumes 1 percent prepayment of outstanding principal balance per month throughout the life of the loan.

[12] For the liability weights a 4.75 percent coupon is assumed, which approximates the effective yield on interest bearing liabilities at all commercial banks during 1992.

Derivation of Risk Weights

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Table 1

Amortizing Instruments

Time band	Maturity	Coupon	Initial Price (% of Par)	Initial PSA/ ABS	Scenario 1 — 200 Basis Point Rise: Expected PSA/ ABS	Price (% of Par)	% Change in Present Value (Risk Weights)	Scenario 2 — 200 Basis Point Decline: Expected PSA/ ABS	Price (% of Par)	% Change in Present Value (Risk Weights)
0-3 Months	1.5 Mo.	8.5%	100.00%	1.0% ABS	1.0% ABS	99.90%	-0.10%	1.0% ABS	100.10%	0.10%
3-12 Months	7.5 Mo.	8.5%	100.00%	1.0% ABS	1.0% ABS	99.50%	-0.50%	1.0% ABS	100.60%	0.60%
1-3 Years	2 Years	8.5%	100.00%	1.0% ABS	1.0% ABS	98.40%	-1.60%	1.0% ABS	101.70%	1.70%
3-5 Years	4 Years	8.5%	100.00%	1.0% ABS	1.0% ABS	97.00%	-3.00%	1.0% ABS	103.10%	3.10%
5-10 Years	7.5 Years	7.0% *	100.00%	166% PSA ***	137% PSA ***	94.70%	-5.30%	501% PSA ***	103.40%	3.40%
10-20 Years	15 Years	7.0% *	100.00%	166% PSA ***	137% PSA ***	91.20%	-8.80%	501% PSA ***	105.90%	5.90%
Over 20 Years	25 Years	7.5% **	100.00%	242% PSA ***	146% PSA ***	90.80%	-9.20%	590% PSA ***	103.60%	3.60%

All Other Instruments

0-3 Months	1.5 Mo.	8.5%	100.00% ****			99.75%	-0.25%		100.25%	0.25%
3-12 Months	7.5 Mo.	8.5%	100.00% ****			98.80%	-1.20%		101.20%	1.20%
1-3 Years	2 Years	8.5%	100.00%			96.50%	-3.50%		103.70%	3.70%
3-5 Years	4 Years	8.5%	100.00%			93.60%	-6.40%		107.00%	7.00%
5-10 Years	7.5 Years	8.5%	100.00%			89.80%	-10.20%		111.70%	11.70%
10-20 Years	15 Years	8.5%	100.00%			85.10%	-14.90%		119.00%	19.00%
Over 20 Years	25 Years	8.5%	100.00%			82.40%	-17.60%		124.60%	24.60%

Liabilities

0-3 Months	1.5 Mo.	4.75%	100.00% ****			99.75%	0.25%		100.25%	-0.25%
3-12 Months	7.5 Mo.	4.75%	100.00% ****			98.80%	1.20%		101.20%	-1.20%
1-3 Years	2 Years	4.75%	100.00%			96.30%	3.70%		103.90%	-3.90%
3-5 Years	4 Years	4.75%	100.00%			93.10%	6.90%		107.50%	-7.50%
5-10 Years	7.5 Years	4.75%	100.00%			88.40%	11.60%		113.50%	-13.50%
10-20 Years	15 Years	4.75%	100.00%			81.30%	18.70%		124.50%	-24.50%
Over 20 Years	25 Years	4.75%	100.00%			76.00%	24.00%		136.00%	-36.00%

Zero or Low Coupon Securities

0-3 Months	1.5 Mo.	8.5%	98.97%			98.72%	-0.25%		99.22%	0.25%
3-12 Months	7.5 Mo.	8.5%	94.95%			93.81%	-1.20%		96.09%	1.20%
1-3 Years	2 Years	8.5%	84.66%			81.53%	-3.70%		87.96%	3.90%
3-5 Years	4 Years	8.5%	71.68%			66.38%	-7.40%		77.41%	8.00%
5-10 Years	7.5 Years	8.5%	53.56%			46.44%	-13.30%		61.92%	15.60%
10-20 Years	15 Years	8.5%	28.69%			21.55%	-24.90%		38.30%	33.50%
Over 20 Years	25 Years	8.5%	12.48%			7.74%	-38.00%		20.21%	61.90%

* Current coupon of 15-year conventional mortgage securities as of 12/31/92
** Current coupon of 30-year conventional mortgage securities as of 12/31/92
*** Consensus of dealer prepayment estimates for 15- & 30-year conventional mortgage securities for selected scenarios as of 12/31/92
**** Actual initial price is slightly less than par

Revision Date: 12-Jul-93

BILLING CODE 4810-33-C; 6210-01-C; 6714-01-C

d. Calculation of the Interest Rate Risk Measure

Tables 2 and 3 are IRR worksheets that illustrate the method by which an institution's IRR exposure would be calculated under the proposed supervisory methodology using a 200 basis point parallel shift in interest rates. Data collected on the reporting forms and the existing Call Report Schedules would be transcribed to column A. For illustrative purposes, non-interest-sensitive balances are included in "Other Assets" and "Other Liabilities" to allow the worksheet to represent an institution's entire balance sheet.

Under the proposed measure system, the risk weights (shown in column B of Tables 2 and 3) represent the estimated percentage change in the value of the instrument under the designated rate shock. Therefore, multiplying the reported positions by the risk weights produces an estimate of the dollar change in the present value of that position for the specified change in rates (column C of the Tables). In Table 2, for example, the $5.5 million of ARMs, fixed-rate mortgages, asset-backed securities and consumer loans repricing within 3 months and reported on line I.1.(a) are multiplied or "weighted" by 0.0010 (or .10 percent as shown in the second column) to produce an estimated change of $6,000 in present value of that position. This risk weight carries a negative sign, reflecting that the present value of these assets would decline if market rates were to rise. Conversely, Table 3 illustrates the changes in value for a decline in rates.

BILLING CODE 4810-33-M; 6210-01-M; 6714-01-M

Interest Rate Risk Worksheet (200 Basis Point Rising Rate Scenario)
DRAFT

Table 2

REPORTING INSTITUTION: Sample Bank

Date: 12/31/92

$ Thousands

	(A) TOTAL	(B) Risk Weights	(C) Risk Weighted Position (A) x (B)	(D) Total Risk Weighted Position
I. INTEREST-SENSITIVE ASSETS				
1. ARMs, FRMs, asset-backed securities, consumer loans				
(a) Up to 3 months	$5,500	-0.10%	($6)	
(b) 3 to 12 months	$4,950	-0.50%	($25)	
(c) 1 to 3 years	$4,050	-1.60%	($65)	
(d) 3 to 5 years	$4,166	-3.00%	($125)	
(e) 5 to 10 years	$6,620	-5.30%	($351)	
(f) 10 to 20 years	$6,454	-8.80%	($568)	
(g) Greater than 20 years	$10,430	-9.20%	($960)	
2. Zero or low coupon securities				
(a) Up to 3 months	$1,000	-0.25%	($3)	
(b) 3 to 12 months	$1,000	-1.20%	($12)	
(c) 1 to 3 years	$1,000	-3.70%	($37)	
(d) 3 to 5 years	$0	-7.40%	$0	
(e) 5 to 10 years	$0	-13.30%	$0	
(f) 10 to 20 years	$0	-24.90%	$0	
(g) Greater than 20 years	$0	-38.00%	$0	
3. "All other" securities, loans, & trading account				
(a) Up to 3 months	$26,672	-0.25%	($67)	
(b) 3 to 12 months	$28,432	-1.20%	($341)	
(c) 1 to 3 years	$31,136	-3.50%	($1,090)	
(d) 3 to 5 years	$19,728	-6.40%	($1,263)	
(e) 5 to 10 years	$10,564	-10.20%	($1,078)	
(f) 10 to 20 years	$8,837	-14.90%	($1,317)	
(g) Greater than 20 years	$9,462	-17.60%	($1,665)	
4. High-risk mortgage securities				
(a) Self-reporting	$2,000		$160	
(b) Risk weighting	$1,000	-38.00%	($380)	
5. Total Interest-Sensitive Assets	$183,000		($9,190)	($9,190)
II. ALL OTHER ASSETS	$3,000			
III. TOTAL ASSETS	$186,000			
IV. INTEREST-SENSITIVE LIABILITIES				
1. Non-maturity deposits, time deposits and "all other"				
(a) Up to 3 months	$23,083	0.25%	$58	
(b) 3 to 12 months	$74,582	1.20%	$895	
(c) 1 to 3 years	$51,321	3.70%	$1,899	
(d) 3 to 5 years	$17,090	6.90%	$1,179	
(e) 5 to 10 years	$64	11.60%	$7	
(f) 10 to 20 years	$0	18.70%	$0	
(g) Greater than 20 years	$0	24.00%	$0	
2. Total Interest-Sensitive Liabilities	$166,140		$4,038	
V. NONINTEREST-SENSITIVE LIABILITIES	$860			
VI. TOTAL LIABILITIES	$167,000		$4,038	$4,038
VII. EQUITY CAPITAL	$19,001			
VIII. OFF-BALANCE-SHEET POSITIONS				
1. Interest rate contracts				
(a) Up to 3 months	$4,000	-0.25%	($10)	
(b) 3 to 12 months	$500	-1.20%	($6)	
(c) 1 to 3 years	($4,050)	-3.50%	$142	
(d) 3 to 5 years	($450)	-6.40%	$29	
(e) 5 to 10 years	$0	-10.20%	$0	
(f) 10 to 20 years	$0	-14.90%	$0	
(g) Greater than 20 years	$0	-17.60%	$0	
2. Mortgage and other amortizing contracts				
(a) Up to 3 months	$1,000	-0.10%	($1)	
(b) 3 to 12 months	$0	-0.50%	$0	
(c) 1 to 3 years	($1,000)	-1.60%	$16	
(d) 3 to 5 years	$0	-3.00%	$0	
(e) 5 to 10 years	$0	-5.30%	$0	
(f) 10 to 20 years	$0	-8.80%	$0	
(g) Greater than 20 years	$0	-9.20%	$0	
3. Total Off-Balance-Sheet Positions	$0		$170	$170
Net Risk Weighted Position				($4,981.86)
Net Position/ Assets				-2.68%

Interest Rate Risk Worksheet (200 Basis Point Declining Rate Scenario)
DRAFT

Table 3

REPORTING INSTITUTION: Sample Bank

Date: 12/31/92

$ Thousands

	(A) TOTAL	(B) Risk Weights	(C) Risk Weighted Position (A) x (B)	(D) Total Risk Weighted Position
I. INTEREST-SENSITIVE ASSETS				
1. ARMs, FRMs, asset-backed securities, consumer loans				
(a) Up to 3 months	$5,500	0.10%	$6	
(b) 3 to 12 months	$4,950	0.60%	$30	
(c) 1 to 3 years	$4,050	1.70%	$69	
(d) 3 to 5 years	$4,166	3.10%	$129	
(e) 5 to 10 years	$6,620	3.40%	$225	
(f) 10 to 20 years	$6,454	5.90%	$381	
(g) Greater than 20 years	$10,430	3.60%	$375	
2. Zero or low coupon securities				
(a) Up to 3 months	$1,000	0.25%	$3	
(b) 3 to 12 months	$1,000	1.20%	$12	
(c) 1 to 3 years	$1,000	3.90%	$39	
(d) 3 to 5 years	$0	8.00%	$0	
(e) 5 to 10 years	$0	15.60%	$0	
(f) 10 to 20 years	$0	33.50%	$0	
(g) Greater than 20 years	$0	61.90%	$0	
3. "All other" securities, loans, & trading account				
(a) Up to 3 months	$26,672	0.25%	$67	
(b) 3 to 12 months	$28,432	1.20%	$341	
(c) 1 to 3 years	$31,136	3.70%	$1,152	
(d) 3 to 5 years	$19,728	7.00%	$1,381	
(e) 5 to 10 years	$10,564	11.70%	$1,236	
(f) 10 to 20 years	$8,837	19.00%	$1,679	
(g) Greater than 20 years	$9,462	24.60%	$2,328	
4. High-risk mortgage securities				
(a) Self-reporting	$2,000		($200)	
(b) Risk weighting	$1,000	-38.00%	($380)	
5. Total Interest-Sensitive Assets	$183,000		$8,871	$8,871
II. ALL OTHER ASSETS	$3,000			
III. TOTAL ASSETS	$186,000			
IV. INTEREST-SENSITIVE LIABILITIES				
1. Non-maturity deposits, time deposits and "all other"				
(a) Up to 3 months	$38,583	-0.25%	($96)	
(b) 3 to 12 months	$77,582	-1.20%	($931)	
(c) 1 to 3 years	$39,821	-3.90%	($1,553)	
(d) 3 to 5 years	$10,090	-7.50%	($757)	
(e) 5 to 10 years	$64	-13.50%	($9)	
(f) 10 to 20 years	$0	-24.50%	$0	
(g) Greater than 20 years	$0	-36.00%	$0	
2. Total Interest-Sensitive Liabilities	$166,140		($3,346)	
V. NONINTEREST-SENSITIVE LIABILITIES	$860			
VI. TOTAL LIABILITIES	$167,000		($3,346)	($3,346)
VII. EQUITY CAPITAL	$19,001			
VIII. OFF-BALANCE-SHEET POSITIONS				
1. Interest rate contracts				
(a) Up to 3 months	$4,000	0.25%	$10	
(b) 3 to 12 months	$500	1.20%	$6	
(c) 1 to 3 years	($4,050)	3.70%	($150)	
(d) 3 to 5 years	($450)	7.00%	($32)	
(e) 5 to 10 years	$0	11.70%	$0	
(f) 10 to 20 years	$0	19.00%	$0	
(g) Greater than 20 years	$0	24.60%	$0	
2. Mortgage and other amortizing contracts				
(a) Up to 3 months	$1,000	0.10%	$1	
(b) 3 to 12 months	$0	0.60%	$0	
(c) 1 to 3 years	($1,000)	1.70%	($17)	
(d) 3 to 5 years	$0	3.10%	$0	
(e) 5 to 10 years	$0	3.40%	$0	
(f) 10 to 20 years	$0	5.90%	$0	
(g) Greater than 20 years	$0	3.60%	$0	
3. Total Off-Balance-Sheet Positions	$0		($181)	($181)
Net Risk Weighted Position				$5,344.31
Net Position/ Assets				2.87%

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The sum of the estimated changes in present value for each category of instrument provides an estimate of the institution's overall interest rate risk, that is, the change in the net economic value of the institution that would result from the specified shift in market interest rates. As shown in Table 2, the specified 200 basis point increase in rates is estimated to reduce the present value of the bank's assets by roughly $9.19 million, raise the present value of its liabilities by an estimate $4.04 million and raise the value of its off-balance-sheet items by $170,000. The net result, or the "Net Risk-Weighted Position" (bottom of the worksheet) is a decline of roughly $4.98 million in the net economic value of this institution. This net risk-weighted position would be the primary measure of the level of an institution's interest rate risk.

Table 3 shows the effect of a decline in rates. This decline is estimated to increase the present value of the example bank's assets by $8.87 million, lower the present value of its liabilities by $3.35 million, and reduce the value of its off-balance-sheet items by $181,000. The Net Risk-Weighted Position represents an increase of roughly $5.34 million in the net economic value of this institution. The differences in the magnitude of the change in value from that derived for the rising rate scenario is attributable to asymmetries in the price sensitivity of financial instruments as interest rates change (i.e., convexity) and different slotting of non-maturity deposits in the rising and falling rate scenarios.

The rate scenario that produces the larger loss or negative net position would be used in the assessment of capital for IRR. In the case of the example bank illustrated in Tables 2 and 3, the exposure to rising rates would be used to evaluate capital adequacy for IRR.

4. Reporting of Internal Model Results

The Banking Agencies request comment on a second Call Report schedule under consideration that could be used by banks that elect or that may be required to have their exposures evaluated on the basis of the results of their own internal models. This supplemental schedule would be recommended to the Federal Financial Institution Examination Council if the Banking Agencies relied on the information to provide an explicit capital charge for IRR.

The schedule (Schedule 2) consist of several asset, liability, and off-balance-sheet categories, with two scenarios for each category:

- Scenario 1 represents a specified increase in interest rates over the rates prevailing as of the report date. In each category under Scenario 1, the bank would report its estimate of the change in present value of the instruments if rates were to rise as specified in Scenario 1.

Proposed Internal Interest Rate Scenario Analysis Schedule: DRAFT

Schedule 2

To be filed by institutions that use an internal interest rate risk measurement system for compliance with guidelines.

Dollar Amounts in Thousands	Rising Rates				Declining Rates			
		Bil	Mil	Thou		Bil	Mil	Thou
Interest Rate Risk Sensitivity Analysis - Estimated Change in Economic Value								
1. Securities								
a. Adjustable-rate mortgage securities	RCFD XXXX				RCFD XXXX			
b. Fixed-rate mtgs, asset-backed securities	RCFD XXXX				RCFD XXXX			
c. Zero or low coupon securities	RCFD XXXX				RCFD XXXX			
d. High-risk mortgage securities	RCFD XXXX				RCFD XXXX			
e. All other securities	RCFD XXXX				RCFD XXXX			
2. Loan and Leases								
a. Adjustable-rate mortgages	RCFD XXXX				RCFD XXXX			
b. Fixed-rate mtg, consumer loans	RCFD XXXX				RCFD XXXX			
c. All other loans (C&I, etc.)	RCFD XXXX				RCFD XXXX			
3. All Other Int-Bearing Assets (Bal. Due, Fed Funds)	RCFD XXXX				RCFD XXXX			
4. Total Liabilities:								
a. Non-maturity deposits (MMDAs, DDAs, NOWs, savings)	RCFD XXXX				RCFD XXXX			
b. Time deposits	RCFD XXXX				RCFD XXXX			
c. All other (include repos and sub. debt)	RCFD XXXX				RCFD XXXX			
5. Off-Balance-Sheet Contracts								
a. Swaps, futures, FRAs, etc.	RCFD XXXX				RCFD XXXX			
b. Options, caps, floors, etc.	RCFD XXXX				RCFD XXXX			
c. Mortgages & other amortizing instruments	RCFD XXXX				RCFD XXXX			
6. Trading Account								
a. Cash positions	RCFD XXXX				RCFD XXXX			
b. Off-balance-sheet positions	RCFD XXXX				RCFD XXXX			
7. Total Assets - Total Liabilities +/- Off-Balance-Sheet	RCFD XXXX				RCFD XXXX			

• Likewise, Scenario 2 represents a specified decrease in interest rates below the rates prevailing as of the report date. In each category under Scenario 2, the bank would report its estimates of the dollar change in present value of the respective instruments should rates fall as specified in Scenario 2.

The rate scenarios would be the same as those used for the supervisory model. The rate scenario that produces the higher loss or negative net position would be used in the assessment of capital for IRR. When used, internal models would be expected to reflect actual coupons and yields for the institution's positions, rather than those incorporated in the construction of the risk weights used in the supervisory model.

As currently drafted, this schedule would be a supplemental one and non-exempted banks would still be required to complete, in its entirety, the proposed schedule illustrated by Schedule 1, found in section 2 above. However, the Banking Agencies recognize that spreading trading account and off-balance-sheet positions across time bands may be especially burdensome for banks with larger portfolios and that, in many instances, the results of internal models may provide a more accurate assessment of the risk in these portfolios. Hence, the Banking Agencies request comment on the regulatory burden associated with reporting such positions by time bands.

C. Assessment of Capital Adequacy for IRR

Two alternative methods are proposed for assessing a bank's capital adequacy for IRR. Under one approach the Banking Agencies would establish minimum capital standards for IRR, relying on results of either the supervisory measure or the bank's internal model. Banks would be required to have capital sufficient to cover the amount of measured exposure in excess of the threshold level (e.g., the amount of their "excess" exposure). The second approach would not establish an explicit minimum capital requirement for IRR. Rather, examiners would consider results of quantitative measures of IRR exposure along with other factors in evaluating a bank's capital adequacy for IRR. Both of these alternatives are discussed in greater detail below.

Current supervisory policies require examiners to review IRR exposure and bank IRR management systems during the examination process. This review would continue under either approach to capital, but more specific procedures or examiner tools would exist. In addition to reviewing the risk measures described in this proposal, examiners would continue to consider the following managerial factors when evaluating safety and soundness:

• The adequacy of and compliance with the bank's written policies, procedures and internal controls;

• The existence of and adherence to specific risk limits relating to both loss of income and capital;

• Management's knowledge and ability to identify and manage sources of interest rate risk effectively; and

• The adequacy of internal risk measurement and monitoring systems.

1. *Minimum Capital Standard Approach*

Under this approach, institutions would be required to hold capital for IRR sufficient to cover their "excess exposure." Excess exposure is defined as the aggregate dollar decline in the net economic value of the institution, as measured by either the supervisory or the internal bank model, that exceeds the proposed supervisory threshold of 1 percent of assets.[13]

The dollar amount of capital required for IRR would be incorporated into the risk-based capital requirements by increasing the bank's risk-weighted assets. Because the amount of risk-weighted assets forms the denominator of the risk-based capital ratios, any increase to that denominator will lower a bank's measured ratio. Specifically, the dollar amount of the capital requirement for IRR would be multiplied by 12.5, which is the reciprocal of the 8 percent minimum risk-based capital ratio. This amount would be added to the total of the bank's risk-weighted assets for purposes of calculating the risk-based capital ratios. This approach does not reduce the amount of Tier 1 or total capital used to derive a bank's risk-based capital ratio, and therefore, avoids reducing the bank's leverage ratio or producing other unintended results.[14]

The following example illustrates how capital for IRR would be calculated and incorporated into a bank's risk-based capital ratio. In this example, a bank has $125 million in total assets, $100 million in risk-weighted assets, and $10 million in total capital. The bank's own model is used for measuring its IRR exposure and the model indicates, using the specified rate scenarios, a $2.25 million decline in net economic value for the rising rate scenario and a $3.0 million increase for the declining rate scenario. For this bank, the rising rate scenario is used to evaluate capital because it is this scenario which produces a decline in net economic value. The bank's excess exposure, and hence the amount of capital required for IRR, is $1 million ($2.25 million measured exposure less the threshold level of 1 percent of total assets or $1.25 million). This $1 million capital charge is then multiplied by 12.5 with the result ($12.5 million) added to the bank's risk-weighted assets. The new level of risk-weighted assets that would be used to calculate the bank's risk-based capital ratio would be $112.5 million. The resulting risk-based capital ratio would be 8.89 percent.

This approach would explicitly incorporate IRR into the existing risk-based capital framework. Banks would be required to have capital equal to at least 8 percent of the new risk-weighted assets. However, because most banks currently have risk-based capital ratios above the 8 percent minimum, this additional component of risk-weighted assets would not require most banks to raise additional capital. The additional component would, however, reduce a bank's calculated risk-based capital ratios and, in certain cases, could affect the bank's treatment under the provisions of prompt corrective action, as well as its deposit insurance premiums.

As with the approach taken in administering the current international risk-based capital standard, any amount of capital required for IRR by this risk measurement process would represent a minimum capital requirement. The exposure would be calculated each quarter using Call Report data, and banks would be expected to meet any capital requirement on a continuous basis. Banks using examiner-approved

[13] That is, when the measured exposure indicates a decline in net economic value that is greater than 1% of total assets, then:

Required Minimum Capital = Measured Exposure − (.01 Total Assets)

Otherwise, required minimum capital for IRR would be zero.

[14] An alternative technique being considered by the Banking Agencies would directly deduct the amount of excess measured exposure from Tier 1 or total capital. For an institution with an 8 percent risk-based capital ratio, the amount of capital required for IRR would be the same using either technique. However, this alternative capital calculation might have certain undesirable results. A deduction from Tier 1 would unintentionally complicate the calculation of an institution's leverage ratio and might require a different definition of Tier 1 capital for use in the leverage calculation. A deduction from total capital could, under certain conditions, leave an institution with Tier 1 risk-based capital ratio that is greater than its total capital ratio, even though total capital was intended to be the broader definition of capital. Moreover, in isolated cases, a deduction from capital for IRR could exceed the institution's regulatory capital, creating a negative capital, position. In Section D, the Banking Agencies seek comments on whether the proposed method or the alternative technique is more appropriate to use in calculating capital under the Minimum Capital Standard approach.

internal models to evaluate IRR for supervisory purposes would report the results of those models.

The adequacy of a bank's IRR management process and the precise characteristics of the bank's assets, liabilities and other positions would also be evaluated during on-site examinations. The on-site examination process would play a critical role in this approach by allowing examiners, during the examination, to consider specific factors relevant to that institution. A bank could be required to have higher amounts of capital for IRR is examiners found material deficiencies in its risk management policies, procedures, or controls or if its specific circumstances were substantially different from those assumed by the supervisory measure.[15]

2. Risk Assessment Approach

Under this approach, the level of measured interest rate exposure would be just one of several factors that examiners would consider when determining a bank's capital needs for interest rate risk. Other factors that would be considered include the quality of a bank's IRR management, internal controls, and the overall financial condition of the bank, including its earnings capacity, capital base, and the level of other risks which may impair future earnings or capital.

Examiners would evaluate a bank's capital adequacy as part of the on-site examination process and the Banking Agencies would provide examiners with guidance to determine the amount, which might be expressed as a range of capital, that may be needed for IRR in light of the above factors. These guidelines would provide examiners with criteria for assessing capital based on the adequacy of the bank's interest rate risk management process as well as the level of its interest rate risk exposure. In general, banks whose measured exposure exceeded the established threshold or whose risk management systems were judged to be deficient would be expected to hold additional capital commensurate with the risks being taken. However, any capital required for IRR would not be automatically incorporated into a bank's risk-based capital ratio.

This approach emphasizes the importance of risk factors that are not easily incorporated into quantitative measures and the role of examiner judgment. The on-site examination process would play a critical role in this approach by allowing examiners, during the examination, to consider specific factors relevant to that institution. Unique characteristics of each bank warrant evaluation on a case-by-case basis. However, uniformity in the examination process also is important and the guidelines mentioned above would be designed to ensure greater uniformity in this process.

To assess the level of interest rate risk exposure, examiners would initially use the supervisory model as a basis for discussions with bank management. All data, including trading account positions, would be drawn from Schedule 1 for use in this model. However, greater reliance would be placed on the results of a bank's own model if the examiner determined that the model provided a more accurate measure of the bank's risk. The examiner would evaluate the results of the internal model during on-site examinations, but banks would not be required to report this information in the Call Report. When an internal model is not available or is inadequate, examiners would rely on the results of the supervisory model.

In general, a bank would be viewed as having high levels of IRR if its measured exposure indicated a decline in the economic value of the institution that exceeded a threshold level of 1.0 percent of total assets. Banks that pass the reporting exemption test, or that otherwise have small measured interest rate risk exposures, would typically be considered to have low levels of risk. Other banks whose measured exposures were below threshold levels but were not minimal, or that held complex financial instruments with significant options-related risks that would result in significant risk measurement error, would generally be viewed as having moderate levels of interest rate risk.

At the completion of each examination, examiners would form and document conclusions as to the adequacy of a bank's capital and risk management process with regard to interest rate risk. An examiner's conclusions about both the level of risk and the adequacy of the risk management process would play an integral role in determining a bank's need for capital for IRR. Banks with high levels of measured exposure and weak management systems generally would need to hold capital for IRR, while those with low levels of exposures and adequate management systems might not be required to hold additional capital for IRR. The specific amount of capital that might be needed by a bank would be determined by the examiner using guidelines provided by the Banking Agencies. The examiner's findings would be discussed with bank management at the close of each examination.

During the intervals between examinations, the Banking Agencies would monitor bank IRR exposures through Call Report data and the supervisory model. Information about results of internal models would not be required in the Call Report. Significant changes in reported exposures or in a bank's overall financial condition would be analyzed by the supervisors to determine whether additional capital may be needed. This review of a bank's capital adequacy would also be required for any bank whose measured exposure exceeded the established threshold. The conclusions of this review would be documented by the supervisor and shared with bank management. However, bank management would be given the opportunity to respond to this review before any additional capital would be required.

D. Issues for Comment

1. Supervisory Measurement System

As proposed, the Banking Agencies would use the percent change in the net present value of a hypothetical instrument as the risk weight for balances represented by that instrument. Does use of the change in net present value sufficiently overcome the weakness of using the instrument's modified duration so as to provide a reasonable basis for risk weights?

2. Treatment of "Non-Maturity" Deposits

The Banking Agencies propose limits on the slotting of deposits without specified maturities (DDA, NOW, MMDA and savings) among time bands because of the problems inherent in measuring the price sensitivity of these deposits and the significant effect that different treatments for them can have on measuring a bank's IRR.

a. Do the proposed rules provide sufficient flexibility to reflect an institution's deposit behavior without undermining the risk measurement process?

b. Should institutions that have well-reasoned and documented internal assessments showing rate sensitivities that are outside of the proposed ranges be allowed to use those assessments? What specific types of analyses and supporting documentation should be required from banks that are allowed such an exception? Would most institutions have the capability of producing such types of analyses?

c. What is the appropriate basis for measuring changes in the price

[15] When internal models are used, by design, their results would always reflect the specific characteristics of the bank's on- and off-balance-sheet positions.

sensitivity or "market value" of these deposits?

The Banking Agencies also solicit comment and any relevant empirical evidence on the price sensitivity and market valuation of these deposits. Information relevant to assessing the changes in the market value of these deposits relative to changing interest rates would be most helpful.

3. Interest Rate Scenarios

In varying degrees, the proposed interest rate scenarios reflect the historical volatility of rates, the current level of rates, and the slope of the yield curve.

a. Should the sample period used to calculate the historical volatility of interest rates be based on a shorter period such as 5 years or a longer period such as 15 years?

b. Should the time interval used to measure volatility and to determine the corresponding rate scenarios be based on quarterly, semi-annual or annual interest rate volatilities?

c. Which is the preferred scenario to be used for both the supervisory and internal models?

d. Is it appropriate to use the same interest rate scenario for both the supervisory model and internal models?

e. Can banks' internal models incorporate the rate scenarios under consideration?

f. Should the Banking Agencies consider the effect of both rising and declining market interest rates? If both, should the risk weights be different to reflect the asymmetrical changes in the market values of certain instruments to the various rate changes, or should they be the same in the interest of simplicity?

g. Currently, the results under either proposed alternative indicate rate changes that are about 100 basis points using a quarterly time horizon and 200 basis points using annual volatilities. In the interest of simplicity, would the use of a parallel 100 or 200 basis point shift be preferred to the proposed nominal or proportional change methodology?

4. Use of Internal Models

The Banking Agencies propose to make greater use of a bank's own model, if the model is deemed adequate by examiners. The Banking Agencies seek comment on the following issues:

a. Is it appropriate to substitute the results of internal models for a standard supervisory calculation when assessing capital adequacy?

b. If internal models are used, to what extent should the Banking Agencies provide guidance to the industry on these models (e.g., acceptable methodologies or modeling parameters)? Would simply providing the interest rate scenario and requiring banks to evaluate the effect of the rate change on their net economic value suffice?

c. Which aspects of an internal model should examiners review to determine whether the model is adequate?

d. Should the assumptions required for the supervisory model also be imposed on internal models when these are used under Alternative One (Minimum Capital Standard approach)? To what degree should results of internal and supervisory measures be allowed to diverge because of different assumptions regarding non-maturity deposits, prepayments, or other factors? What competitive inequities might result if large differences are allowed?

e. Should some institutions be required to use more sophisticated internal models to calculate IRR exposure if an explicit capital charge for IRR is established? If so, what type or scope of activities should trigger such a requirement?

5. Use of OTS Model

The Office of Thrift Supervision (OTS) has adopted an alternative method for measuring the IRR exposures of savings associations which differs from that proposed by the Banking Agencies (see 57 FR 40524, September 3, 1992). Under the OTS method, savings associations report weighted average coupon and weighted maturity information for various classes of assets, liabilities and off-balance-sheet instruments. For certain instruments, mortgage-related instruments in particular, the amount of information reported is significantly more detailed than that proposed by the Banking Agencies.

The reported information is used in the OTS Market Value Model to estimate the change in a savings association's market value under various interest rate scenarios. The OTS model uses two valuation methodologies: (1) A static discounted cash flow analysis similar to that proposed by the Banking Agencies, and (2) an option-based pricing model (also known as an option-adjusted spread or OAS methodology) for valuing certain assets, such as mortgages and mortgage-related instruments, that contain embedded options.

The Banking Agencies request comment on the following issues:

a. Should commercial banks with portfolios that are similar to thrifts or those that are highly susceptible to IRR be required to use the OTS (or similar) model and reporting requirements to measure IRR in lieu of the proposed supervisory model?

b. If so, what criteria should the Banking Agencies use to determine which commercial banks should be subject to the OTS (or similar) model?

c. If a bank were required to use the OTS (or similar) model, should that bank still be allowed to report the results of an adequate internal model as proposed by the Banking Agencies? Alternatively, should the requirement to use the OTS (or similar) model rule out any reporting of the internal model?

d. For banks that may be required to use the OTS (or similar) model, does the OTS reporting format impose significant reporting burdens? What modifications could be made to reduce the burden if the Banking Agencies decide to use the basic approach of the OTS model?

6. Reporting Requirements

The Banking Agencies propose to recommend to the FFIEC a new reporting schedule to provide information better suited to determining the interest rate exposure of those institutions that do not meet the exemption criteria.

a. Does the reporting format currently under consideration, illustrated by Schedule 1, impose significant reporting burdens on non-exempted institutions? What modifications could be made to reduce the burden?

The Banking Agencies are also considering implementing a separate reporting schedule on which banks could report IRR exposures as measured by their own models.

b. If the Banking Agencies rely on a bank's internal model for assessing its IRR, should the bank be required to report the results of that model each quarter?

c. Should some or all of the information about the internal model be treated as confidential?

d. Is the information requested on Schedule 2 appropriate?

7. Threshold Level

The Banking Agencies propose to use a threshold level to determine whether a bank may be taking high levels of interest rate risk and, thus, need additional capital for IRR. As proposed, a bank would be viewed as having a high level of exposure if its measured exposure indicates a decline in the economic value of the institution that exceeds 1.0 percent of total assets.

a. Is this threshold appropriate?

b. The threshold level is based, in part, on the imprecision of the supervisory model. When more accurate internal systems are used, and especially if greater flexibility is permitted regarding the treatment of

non-maturity deposits, should a lower threshold also be used?

8. Exemption Test

The Banking Agencies have proposed a screening test that would exempt banks from any additional reporting requirements.

a. Are the exemption criteria reasonable?

b. Does the test adequately safeguard against exempting banks that pose significant risks to the deposit insurance fund due to IRR?

c. Since previously exempted banks may need to be prepared to report the data if they no longer meet the exemption criteria, does the exemption test significantly reduce record-keeping costs?

d. Is the reporting burden sufficiently onerous to warrant the reporting exemption?

9. Use of IRR Measure

The Banking Agencies are considering two approaches for using the proposed measurement system when evaluating capital adequacy. Under the Minimum Capital Standard approach, the measurement system would be the primary determinant in evaluating the need for capital for IRR. The Risk Assessment approach would use the measurement system as just one factor in determining the need for additional capital.

a. Comments are requested on the merits of each of these approaches.

b. Under the Minimum Capital Standard approach, the Banking Agencies are proposing that the capital requirement for IRR be implemented by increasing a bank's risk-weighted assets by an amount equal to 12.5 times the excess measured exposure, where 12.5 represents the reciprocal of the 8 percent minimum risk-based capital ratio. An alternative technique would be to directly deduct the amount of excess measured exposure from Tier 1 or total capital. The Banking Agencies seek comments on whether the proposed method or the alternative technique is more appropriate to use in calculating capital under the Minimum Capital Standard approach.

10. Capital Assessment

In determining a bank's capital needs for IRR, the Banking Agencies seek comment on the following issues:

a. To what extent should examiners have flexibility when evaluating an institution's measured IRR exposure for capital purposes?

b. What consideration should be given to the quality of a bank's risk management process when evaluating the bank's IRR? How should this consideration be incorporated into an assessment of capital adequacy?

11. Reporting for Multi-bank Holding Companies

The proposal states that data will be collected and risk measured for individual banks.

a. In addition to reviewing individual bank positions, to what extent should the Banking Agencies also consider consolidated positions of the parent holding company or, alternatively, the aggregate position of only its affiliated banks?

b. What is the extent of the reporting burden associated with reporting individual bank positions?

12. Leverage Standard

When announcing regulations to implement section 38 of FDICIA in September, 1992, the federal banking agencies stated that they intend to lower or eliminate the leverage capital component from the risk-based capital standard after that standard has been revised to take into account interest rate risk and after experience has been gained with the (modified) standard. Does either the Minimum Capital Standard approach or the Risk Assessment approach provide an adequate basis for reconsidering the need for the leverage standard? Would the basis for removing that standard be stronger under one approach than the other?

Regulatory Flexibility Act Statement

Each agency has concluded after reviewing the proposed regulations that the regulations, if adopted, will not impose a significant economic hardship on small institutions. The proposal does not necessitate the development of sophisticated recordkeeping or reporting systems by small institutions nor will small institutions need to seek out the expertise of specialized accountants, lawyers, or managers in order to comply with the regulation. Each agency therefore hereby certifies pursuant to section 605b of the Regulatory Flexibility Act (5 U.S.C. 605b) that the proposal, if adopted, will not have a significant economic impact on a substantial number of small entities within the meaning of the Regulatory Flexibility Act (5 U.S.C. 601 et seq.).

Executive Order 12291

The Comptroller of the Currency has preliminarily determined that proposed regulation may be a "major rule" within the meaning of Executive Order 12291. Accordingly, the OCC has prepared a Preliminary Regulatory Impact Analysis.

The objectives of the proposed regulation are to ensure that banks: (1) Hold capital consistent with the level of IRR in their portfolios so as to reduce the incidence of bank failures and claims upon the Bank Insurance Fund (BIF); (2) effectively measure and monitor their IRR exposures; and (3) consider both interest rate and credit risks in making investment and lending decisions. This proposed rule implements section 305(b)(1)(A)(i) of FDICIA and is consistent with those requirements.

A number of benefits can be expected to accrue from the proposed regulation. These include: (1) Either an increase in bank capital or a reduction in IRR for those banks with high levels of IRR; (2) a reduction in the incentive for banks to substitute IRR for credit risk; and (3) an increase in the awareness among banks of the need to measure and manage IRR. A number of costs can be expected to accrue from the proposed regulation. These include: (1) Direct compliance costs; (2) supervisory costs; and (3) costs associated with the impact of the rule on bank behavior.

The Regulatory Impact Analysis is based on preliminary and limited data that make it difficult to estimate the impact of this rule. This difficulty arises from the lack of sufficient data to accurately estimate which banks may be found to have high IRR exposures under the proposal, the amount of capital those banks may need, and the complexities of trying to estimate how banks may change their behavior in response to the proposed rule.

The OCC seeks to issue a final rule that will meet its objectives at the least possible net cost to the economy. The OCC invites commenters to provide any data they may have on the costs and benefits of this proposal with regard to the management of IRR at banking organizations, the impact on bank capital levels and on the pricing, selection and offering of products and investments by banks, and on direct costs that banks may incur as the result of the proposed rule.

Copies of the Preliminary Regulatory Impact Analysis may be obtained by writing to the following address: IRR Impact Statement, Mail Stop 9–16, Communications Division, Office of the Comptroller of the Currency, 250 E Street SW., Washington, DC 20219.

List of Subjects

12 CFR Part 3

Administrative practice and procedure, Capital risk, National banks, Reporting and recordkeeping requirements.

12 CFR Part 208

Accounting, Agriculture, Banks, Banking, Confidential business information, Currency, Reporting and recordkeeping requirements, Securities.

12 CFR Part 325

Bank deposit insurance, Banks, Banking, Capital adequacy, Reporting and recordkeeping requirements, Savings associations, State nonmember banks.

COMTROLLER OF THE CURRENCY

Authority and Issuance

For the reasons set out in the joint preamble, part 3 of chapter I of title 12 of the Code of Federal Regulations is proposed to be amended as set forth below.

PART 3—MINIMUM CAPITAL RATIOS; ISSUANCE OF DIRECTIVES

1. The authority citation for part 3 continues to reads as follows:

Authority: 12 U.S.C. 93a, 161, 1818, 1828(n), 1828 note, 1831n note, 3907 and 3909.

Alternative One (Minimum Capital Standard Approach) for Appendix A and B to Part 3—Risk-Based Capital Guidelines

2. In appendix A, section 4 is amended by revising paragraph (b)(1), redesignating paragraphs (b)(2) and (b)(3) as paragraphs (b)(3) and (b)(4), respectively, and by adding a new paragraph (b)(2) to read as follows:

Section 4. Implementation, Transition Rules, and Target Ratios

* * * * *

(b)(1) Each national bank must maintain a minimum ratio of total capital (after deductions) to risk-weighted assets (adjusted for interest rate risk) of 8.0%.

(b)(2) If a bank is required to maintain additional capital for interest rate risk exposure, as determined in accordance with appendix B to part 3, risk-weighted assets must be increased by an amount equal to 12.5 times the dollar amount of the additional capital requirement for interest rate risk, before determining the minimum ratio of total capital to risk-weighted assets specified in section 4(b)(1) of this appendix A.

* * * * *

3. A new appendix B is added to part 3 after appendix A to read as follows:

Appendix B—Interest Rate Risk Component

Section 1. Purpose, Definitions, and Applicability of Guidelines

(a) *Purpose.* This appendix B explains precisely how the interest rate risk exposure of a bank is to be measured for the purpose of determining compliance with the capital adequacy requirements.

(b) *Definitions.* For the purpose of this appendix B, the following definitions apply:

(1) *Excess measured exposure* means the dollar amount of measured exposure to interest rate risk in excess of the supervisory threshold. This amount represents the amount of interest rate risk against which the bank must maintain capital.

(2) *Interest rate scenarios* means the specified changes in market interest rates used in calculating a bank's measured exposure.

(3) *Measured exposure* means the estimated dollar decline in the net economic value of the bank in response to a potential change in market interest rates under the specified interest rate scenarios, as determined pursuant to either the supervisory measure or the bank's internal measure. When the supervisory measure is used to calculate the bank's measured exposure, pursuant to section 4 of this appendix B, a bank's measured exposure is derived by calculating the bank's net risk-weighted position.

(4) *Mortgage derivative products* means interest-only and principal-only stripped mortgage-backed securities (IOs and POs), tranches of collateralized mortgage obligations (CMOs) and real estate mortgage investment conduits (REMICs), CMO and REMIC residual securities, and other instruments having the same characteristics as these securities.

(5) *Net economic value of the bank* means the net present value of its assets minus the net present value of its liabilities plus the net present value of its off-balance-sheet instruments.

(6) *Net risk-weighted position* means the sum of all risk-weighted positions of a bank's assets, liabilities and off-balance sheet items. For the purposes of the supervisory measure, this number represents the amount by which the net economic value of the bank is estimated to change in response to a potential change in market interest rates under the specified interest rate scenarios.

(7) *Nonmaturity deposits* mean demand deposit accounts (DDAs), money market deposit accounts (MMDAs), savings accounts, and negotiable order of withdrawal accounts (NOWs).

(8) *Notional principal amount* means the total dollar amount upon which a contract is based.

(9) *Supervisory threshold* means 1% of a bank's total assets.

(c) *Applicability and exemption for institutions with low risk.* (1) All national banks are subject to the requirements of this appendix B and must calculate their excess measured exposure as required by the supervisory model or by an internal measure, pursuant to sections 4 or 9 of this appendix B, unless:

(i) The total notional principal amount of the bank's off-balance sheet interest rate contracts is less than 10% of total assets, and

(ii) 15% of the sum of fixed- and floating-rate loans and securities that mature or reprice beyond 5 years is less than 30% of total capital.

(2) Notwithstanding paragraph (c)(1) of this section, the OCC may require a bank to meet the requirements of this appendix B if compliance is necessary to ensure the capital adequacy of the bank.

Section 2. Capital Requirement for Interest Rate Risk

A bank shall maintain capital for interest rate risk in an amount equal to the bank's excess measured exposure. The amount of capital required for interest rate risk is in addition to the amount of capital required by appendix A of this part 3. Compliance shall be determined as specified in section 4(b)(2) of Appendix A.

Section 3. Specified Interest Rate Scenarios

For the purpose of calculating a bank's measured exposure, under either the supervisory measure or an internal measure, the bank shall use both a rising and falling interest rate scenario based on an instantaneous uniform 200 basis point parallel change in market interest rates at all maturities. The interest rate scenarios, with the accompanying risk weights, are provided in Table 1 of section 7 of this appendix B. The OCC may modify the specified interest rate scenarios as appropriate considering historical and current interest rate levels, interest rate volatilities and other relevant market and supervisory considerations.

BILLING CODE 4810-33-M; 6210-01-M; 6714-01-M

Interest Rate Risk Worksheet (200 Basis Point Declining Rate Scenario)
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Table 3

REPORTING INSTITUTION: Sample Bank

Date: 12/31/92

$ Thousands

	(A) TOTAL	(B) Risk Weights	(C) Risk Weighted Position (A) x (B)	(D) Total Risk Weighted Position
I. INTEREST-SENSITIVE ASSETS				
1. ARMs, FRMs, asset-backed securities, consumer loans				
(a) Up to 3 months	$5,500	0.10%	$6	
(b) 3 to 12 months	$4,950	0.60%	$30	
(c) 1 to 3 years	$4,050	1.70%	$69	
(d) 3 to 5 years	$4,166	3.10%	$129	
(e) 5 to 10 years	$6,620	3.40%	$225	
(f) 10 to 20 years	$6,454	5.90%	$381	
(g) Greater than 20 years	$10,430	3.60%	$375	
2. Zero or low coupon securities				
(a) Up to 3 months	$1,000	0.25%	$3	
(b) 3 to 12 months	$1,000	1.20%	$12	
(c) 1 to 3 years	$1,000	3.90%	$39	
(d) 3 to 5 years	$0	8.00%	$0	
(e) 5 to 10 years	$0	15.60%	$0	
(f) 10 to 20 years	$0	33.50%	$0	
(g) Greater than 20 years	$0	61.90%	$0	
3. "All other" securities, loans, & trading account				
(a) Up to 3 months	$26,672	0.25%	$67	
(b) 3 to 12 months	$28,432	1.20%	$341	
(c) 1 to 3 years	$31,136	3.70%	$1,152	
(d) 3 to 5 years	$19,728	7.00%	$1,381	
(e) 5 to 10 years	$10,564	11.70%	$1,236	
(f) 10 to 20 years	$8,837	19.00%	$1,679	
(g) Greater than 20 years	$9,462	24.60%	$2,328	
4. High-risk mortgage securities				
(a) Self-reporting	$2,000		($200)	
(b) Risk weighting	$1,000	-38.00%	($380)	
5. Total Interest-Sensitive Assets	$183,000		$8,871	$8,871
II. ALL OTHER ASSETS	$3,000			
III. TOTAL ASSETS	$186,000			
IV. INTEREST-SENSITIVE LIABILITIES				
1. Non-maturity deposits, time deposits and "all other"				
(a) Up to 3 months	$38,583	-0.25%	($96)	
(b) 3 to 12 months	$77,582	-1.20%	($931)	
(c) 1 to 3 years	$39,821	-3.90%	($1,553)	
(d) 3 to 5 years	$10,090	-7.50%	($757)	
(e) 5 to 10 years	$64	-13.50%	($9)	
(f) 10 to 20 years	$0	-24.50%	$0	
(g) Greater than 20 years	$0	-36.00%	$0	
2. Total Interest-Sensitive Liabilities	$166,140		($3,346)	
V. NONINTEREST-SENSITIVE LIABILITIES	$860			
VI. TOTAL LIABILITIES	$167,000		($3,346)	($3,346)
VII. EQUITY CAPITAL	$19,001			
VIII. OFF-BALANCE-SHEET POSITIONS				
1. Interest rate contracts				
(a) Up to 3 months	$4,000	0.25%	$10	
(b) 3 to 12 months	$500	1.20%	$6	
(c) 1 to 3 years	($4,050)	3.70%	($150)	
(d) 3 to 5 years	($450)	7.00%	($32)	
(e) 5 to 10 years	$0	11.70%	$0	
(f) 10 to 20 years	$0	19.00%	$0	
(g) Greater than 20 years	$0	24.60%	$0	
2. Mortgage and other amortizing contracts				
(a) Up to 3 months	$1,000	0.10%	$1	
(b) 3 to 12 months	$0	0.60%	$0	
(c) 1 to 3 years	($1,000)	1.70%	($17)	
(d) 3 to 5 years	$0	3.10%	$0	
(e) 5 to 10 years	$0	3.40%	$0	
(f) 10 to 20 years	$0	5.90%	$0	
(g) Greater than 20 years	$0	3.60%	$0	
3. Total Off-Balance-Sheet Positions	$0		($181)	($181)
Net Risk Weighted Position				$5,344.31
Net Position/ Assets				2.87%

BILLING CODE 4810-33-C; 6210-01-C; 6714-01-C

Section 4. Supervisory Measure

(a) *Use of supervisory measure.* Except as provided by section 9 of this appendix B, a bank's measured exposure to interest rate risk must be calculated pursuant to the supervisory measure as specified by sections 5 through 8 of this appendix B.

(b) *Overview of interest rate risk calculation.* The calculation of a bank's measured exposure generally requires the following steps:[1]

(1) The bank's assets, liabilities, and off-balance sheet contracts must be assigned to the appropriate balance sheet categories based on the instrument's cash flow characteristics.

(2) Within each balance sheet category, each asset, liability or off-balance sheet contract must be assigned to the appropriate time bank generally based on each instrument's remaining maturity or next repricing date.

(3) Balances within each time band are multiplied by the appropriate risk weight to produce a risk-weighted position for each interest rate scenario.

(4) All risk-weighted positions are summed to produce a net risk-weighted position for each interest rate scenario which is the basis for determining the bank's measured exposure to interest rate risk.

Section 5. Balance Sheet Categories

All assets, liabilities, and off-balance sheet positions must be assigned to one of the following interest rate risk balance-sheet categories, as appropriate:

(a) *Adjustable-rate assets.* Adjustable-rate mortgage loans and adjustable-rate mortgage securities.

(b) *Amortizing fixed-rate loans and securities.* Fixed-rate mortgage securities, and asset-backed securities, fixed-rate mortgage loans, consumer loans and other instruments that involve scheduled periodic amortization of principal, except for mortgage derivative products.

(c) *High-risk mortgage securities.* Any mortgage derivative product that at the time of purchase or at any subsequent date:

(1) Has an expected weighted average life greater than 10 years; or

(2) Has an expected weighted average life that:

(i) Extends by more than 4 years, assuming an immediate and sustained parallel shift in the yield curve of plus 300 basis points; or

(ii) Shortens by more than 6 years, assuming an immediate and sustained parallel shift in the yield curve of minus 300 basis points; or

(3) Has a change in price of greater than 17%, assuming an immediate and sustained parallel shift in the yield curve of plus or minus 300 basis points.

(d) *Zero- or low-coupon assets.* Securities with either no periodic interest payments or stated coupons of 2% or lower.

(e) *Trading account items.* Trading account assets and related off-balance sheet instruments.

(f) *All other assets.* All other interest-sensitive instruments, which are assumed to involve scheduled periodic payments of interest and the payment of principal at maturity and all mortgage derivative products that are not high-risk mortgage securities.

(g) *Liabilities.* All deposits and all nondeposit liabilities whose values are sensitive to movements in interest rates.

(h) *Off-balance sheet items.* Interest-rate contracts including swaps, forwards, options, and futures and mortgage-related fixed-rate commitments and other off-balance sheet derivative instruments whose value depends on the value of an underlying asset or index with amortizing characteristics

Section 6. Time Bands

(a) *Assignment of item balances.* The balance of each asset, liability, and off-balance sheet item within each balance sheet category, as specified in section 5 of this appendix B, must be assigned to one of the following time bands according to the remaining maturity of next repricing date of the asset, liability, or off-balance sheet item:

(1) Less than or equal to 3 months;

(2) Greater than 3 months and less than or equal to 12 months;

(3) Greater than 1 year and less than or equal to 3 years;

(4) Greater than 3 years and less than or equal to 5 years;

(5) Greater than 5 years and less than or equal to 10 years;

(6) Greater than 10 years and less than or equal to 20 years;

(7) Greater than 20 years.

(b) *Remaining maturity and repricing date.* (1) *General.* Except for certain mortgage derivative products and nonmaturity deposits, and the remaining maturity of an asset, liability, or off-balance sheet item generally is determined by the remaining time before maturity, or the next actual or potential repricing date, associated with the outstanding principal or notional principal amount as specified by contract or agreement.

(2) *Remaining maturity and repricing date for mortgage derivative products.* (i) For mortgage derivative products, other than for high-risk mortgage securities, the current expected average life must be used instead of the remaining time before maturity or the next actual or potential repricing date. For high-risk mortgage securities, a bank's own estimate of the change in market value under the specified interest rate scenario is to be used. However, if this information is not available from the bank, the OCC will determine the appropriate treatment for maturity and repricing.

(ii) The current expected average life of a mortgage derivative product is to be determined by the management of the bank. All underlying assumptions, such as prepayment assumptions, used in determining the current expected average life of these instruments must be reasonable and will be subject to OCC review.

(3) *Remaining maturity and repricing date for nonmaturity deposits.* Notwithstanding paragraph (b)(1) of this section, the remaining maturity and repricing date for nonmaturity deposits is determined by the management of the bank based on its own assumptions and experience, subject to the following conditions:

(i) The remaining maturity and repricing date for DDAs and MMDAs may not exceed 3 years, with a maximum of 40% of these balances in the "greater than 1 year but less than or equal to 3 years" time band;

(ii) The remaining maturity and repricing date for savings and NOW account balances may not exceed 5 years, with a maximum of 40% of the total of these balances in the "greater than 3 years but less than or equal to 5 years" time band; and

(iii) All assumptions used by the bank in determining the remaining maturity and repricing date for nonmaturity deposits must be reasonable and are subject to review by the OCC.

Section 7. Risk Weights

The risk weights estimate the sensitivity of the present value of each asset, liability, and off-balance sheet item within each balance sheet category and time band under a rising and falling interest rate scenario. These risk weights are provided in Table 1. The risk-weighted positions for all assets, liabilities, and off-balance sheet items must be calculated by multiplying all assets, liabilities, and off-balance sheet items as specified according to balance sheet category and time band, by the corresponding risk weight as illustrated in Table 2 (rising interest rate scenario) and Table 3 (falling interest rate scenario).

BILLING CODE 4810-33-M; 6210-01-M; 6714-01-M

[1] The calculations for the rising and falling interest rate scenarios are illustrated in Table 2 and Table 3, respectively.

Risk Weights

Table 1

Amortizing Instruments

Timeband	Scenario 1 200 Basis Point Rise % Change in Present Value (Risk Weights)	Scenario 2 200 Basis Point Decline % Change in Present Value (Risk Weights)
0-3 months	-0.10%	0.10%
3-12 months	-0.50%	0.60%
1-3 Years	-1.60%	1.70%
3-5 Years	-3.00%	3.10%
5-10 Years	-5.30%	3.40%
10-20 Years	-8.80%	5.90%
Over 20 Years	-9.20%	3.60%

All Other Instruments

0-3 months	-0.25%	0.25%
3-12 months	-1.20%	1.20%
1-3 Years	-3.50%	3.70%
3-5 Years	-6.40%	7.00%
5-10 Years	-10.20%	11.70%
10-20 Years	-14.90%	19.00%
Over 20 Years	-17.60%	24.60%

Liabilities

0-3 months	0.25%	-0.25%
3-12 months	1.20%	-1.20%
1-3 Years	3.70%	-3.90%
3-5 Years	6.90%	-7.50%
5-10 Years	11.60%	-13.50%
10-20 Years	18.70%	-24.50%
Over 20 Years	24.00%	-36.00%

Zero or Low Coupon Securities

0-3 months	-0.25%	0.25%
3-12 months	-1.20%	1.20%
1-3 Years	-3.70%	3.90%
3-5 Years	-7.40%	8.00%
5-10 Years	-13.30%	15.60%
10-20 Years	-24.90%	33.50%
Over 20 Years	-38.00%	61.90%

Interest Rate Risk Worksheet (200 Basis Point Rising Rate Scenario)
DRAFT

Table 2

REPORTING INSTITUTION: Sample Bank

Date: 12/31/92

$ Thousands

	(A) TOTAL	(B) Risk Weights	(C) Risk Weighted Position (A) x (B)	(D) Total Risk Weighted Position
I. INTEREST-SENSITIVE ASSETS				
1. ARMs, FRMs, asset-backed securities, consumer loans				
(a) Up to 3 months	$5,500	-0.10%	($6)	
(b) 3 to 12 months	$4,950	-0.50%	($25)	
(c) 1 to 3 years	$4,050	-1.60%	($65)	
(d) 3 to 5 years	$4,166	-3.00%	($125)	
(e) 5 to 10 years	$6,620	-5.30%	($351)	
(f) 10 to 20 years	$6,454	-8.80%	($568)	
(g) Greater than 20 years	$10,430	-9.20%	($960)	
2. Zero or low coupon securities				
(a) Up to 3 months	$1,000	-0.25%	($3)	
(b) 3 to 12 months	$1,000	-1.20%	($12)	
(c) 1 to 3 years	$1,000	-3.70%	($37)	
(d) 3 to 5 years	$0	-7.40%	$0	
(e) 5 to 10 years	$0	-13.30%	$0	
(f) 10 to 20 years	$0	-24.90%	$0	
(g) Greater than 20 years	$0	-38.00%	$0	
3. "All other" securities, loans, & trading account				
(a) Up to 3 months	$26,672	-0.25%	($67)	
(b) 3 to 12 months	$28,432	-1.20%	($341)	
(c) 1 to 3 years	$31,136	-3.50%	($1,090)	
(d) 3 to 5 years	$19,728	-6.40%	($1,263)	
(e) 5 to 10 years	$10,564	-10.20%	($1,078)	
(f) 10 to 20 years	$8,837	-14.90%	($1,317)	
(g) Greater than 20 years	$9,462	-17.60%	($1,665)	
4. High-risk mortgage securities				
(a) Self-reporting	$2,000		$160	
(b) Risk weighting	$1,000	-38.00%	($380)	
5. Total Interest-Sensitive Assets	$183,000		($9,190)	($9,190)
II. ALL OTHER ASSETS	$3,000			
III. TOTAL ASSETS	$186,000			
IV. INTEREST-SENSITIVE LIABILITIES				
1. Non-maturity deposits, time deposits and "all other"				
(a) Up to 3 months	$23,083	0.25%	$58	
(b) 3 to 12 months	$74,582	1.20%	$895	
(c) 1 to 3 years	$51,321	3.70%	$1,899	
(d) 3 to 5 years	$17,090	6.90%	$1,179	
(e) 5 to 10 years	$64	11.60%	$7	
(f) 10 to 20 years	$0	18.70%	$0	
(g) Greater than 20 years	$0	24.00%	$0	
2. Total Interest-Sensitive Liabilities	$166,140		$4,038	
V. NONINTEREST-SENSITIVE LIABILITIES	$860			
VI. TOTAL LIABILITIES	$167,000		$4,038	$4,038
VII. EQUITY CAPITAL	$19,001			
VIII. OFF-BALANCE-SHEET POSITIONS				
1. Interest rate contracts				
(a) Up to 3 months	$4,000	-0.25%	($10)	
(b) 3 to 12 months	$500	-1.20%	($6)	
(c) 1 to 3 years	($4,050)	-3.50%	$142	
(d) 3 to 5 years	($450)	-6.40%	$29	
(e) 5 to 10 years	$0	-10.20%	$0	
(f) 10 to 20 years	$0	-14.90%	$0	
(g) Greater than 20 years	$0	-17.60%	$0	
2. Mortgage and other amortizing contracts				
(a) Up to 3 months	$1,000	-0.10%	($1)	
(b) 3 to 12 months	$0	-0.50%	$0	
(c) 1 to 3 years	($1,000)	-1.60%	$16	
(d) 3 to 5 years	$0	-3.00%	$0	
(e) 5 to 10 years	$0	-5.30%	$0	
(f) 10 to 20 years	$0	-8.80%	$0	
(g) Greater than 20 years	$0	-9.20%	$0	
3. Total Off-Balance-Sheet Positions	$0		$170	$170
Net Risk Weighted Position				($4,981.86)
Net Position/ Assets				-2.68%

BILLING CODE 4810-33-C; 6210-01-C; 6714-01-C

Section 8. Calculation of Excess Measured Exposure

(a) *Calculation of net risk-weighted position.* The net risk-weighted position must be calculated for both the rising interest rate scenario and the falling interest rate scenario. The net risk-weighted position for the rising interest rate scenario is calculated by summing the risk-weighted positions for all assets, liabilities, and off-balance sheet items, as derived in Table 2 of this appendix B. The net risk-weighted position for the falling interest rate scenario is calculated by summing the risk-weighted positions for all assets, liabilities, and off-balance sheet items, as derived in Table 3 of this appendix B. In mathematical terms the calculation for the net risk-weighted position is (Assets × Risk Weights) + (Liabilities × Risk Weights) + (Off-Balance-Sheet Positions × Risk Weight) = Net Risk-Weighted Position.9

(b) *Calculation of measured exposure to interest rates.* The bank's net risk-weighted positions under the rising interest rate scenario and the falling interest rate scenario represent the bank's measured exposures to interest rate risk. If the bank's net risk-weighed position is positive under both of the interest rate scenarios, then the bank's measured exposure is set to zero. If the bank's net risk-weighted position is negative under one or both of the interest rate scenarios, then the bank's measured exposure is equal to the larger decline in the net economic value of the bank under the two interest rate scenarios.

(c) *Calculation of excess measured exposure.* The bank's excess measured exposure is the positive difference of the absolute dollar amount of the measured exposure minus the dollar amount of the supervisory threshold. In mathematical terms the calculation for a bank's excess measured exposure is Measured Exposure—(Total Assets × .01). If the amount of the supervisory threshold is greater than the measured exposure, then the excess measured exposure is zero.

Section 9. Internal Measure

The OCC may permit or require a bank to use an internal measure developed or acquired by the bank to determine its measured exposure instead of the supervisory measure where the OCC deems that such internal measure is acceptable.

(a) *Acceptable internal measure.* Factors that the OCC will consider in determining whether to permit a bank to use an internal measure include:

(1) Whether the assumptions and structure of the supervisory measure accurately reflect the bank's assets, liabilities, and off-balance sheet positions, and whether the internal measure provides a more precise measurement of the changes in the net economic value of the bank than the supervisory measure;

(2) Whether the internal measure makes use of generally accepted techniques in estimating measured exposure;

(3) Whether the internal measure is appropriate to the nature and scope of the activities of the bank; and

(4) Whether the internal measure provides an adequate indication of the exposure of the institution to interest rate risk in all material respects.

(b) *Required use of internal measure.* The OCC may require a bank for the purposes of compliance with the requirements of this appendix B to use an existing internal measure where the OCC determines that:

(1) The supervisory measure does not adequately characterize the interest rate risk of the bank's positions; and

(2) The use of the supervisory measure would materially misrepresent the bank's actual interest rate risk exposure.

(c) *Interest Rate Scenario.* Where a bank is either permitted or required to use an internal measure, the internal measure must incorporate the same interest rate scenarios used by the supervisory measure as specified in section 3 in this appendix B.

Section 10. Implementation

The requirements of this appendix B are applicable to all national banks after December 31, 1994.

ALTERNATIVE TWO (RISK ASSESSMENT APPROACH) FOR PART 3—RISK-BASED CAPITAL GUIDELINES

4. In § 3.10, paragraph (d) is amended by removing the phrase "interest rate risk,"; paragraphs (e), (f), (g), (h), and (i) are redesignated as paragraphs as (f), (g), (h), (i), and (j), respectively; and new paragraph (e) is added to read as follows:

§ 3.10 Applicability.

* * * * *

(e) A bank with significant interest rate risk exposure;

* * * * *

This signature page relates to the Joint Notice of Proposed Rulemaking titled Risk-Based Capital Standards: Interest Rate Risk, Office of the Comptroller of the Currency, Department of the Treasury, Docket Number 93–11.

Office of the Comptroller of the Currency.

Dated: September 2, 1993.

Eugene A. Ludwig,

Comptroller of the Currency.

FEDERAL RESERVE SYSTEM

Authority and Issuance

For the reasons set out in the joint preamble, part 208 of chapter II of title 12 of the Code of Federal Regulations is proposed to be amended as set forth below.

PART 208—MEMBERSHIP OF STATE BANKING INSTITUTIONS IN THE FEDERAL RESERVE SYSTEM

1. The authority citation for part 208 continues to read as follows:

Authority: 12 U.S.C. 36, 248(a), 248(c), 321–338, 461, 481–486, 601, 611, 1814, 1823(j), 3105, 3310, 3331–3351, and 3906–3909; 15 U.S.C. 78b, 781(b), 781(g), 781(i), 78o–4(c)(5), 78q, 78q–1, and 78w.

ALTERNATIVE ONE (MINIMUM CAPITAL STANDARD APPROACH) FOR APPENDIX A TO PART 208—CAPITAL ADEQUACY GUIDELINES FOR STATE MEMBER BANKS: RISK-BASED MEASURE

2. Section III of appendix A to part 208 is amended by revising the first undesignated paragraph of paragraph A, and by adding new paragraph F. to read as follows:

Appendix A to Part 208—Capital Adequacy Guidelines for State Member Banks: Risk-Based Measure

* * * * *

III. * * *

A. * * *

Assets and credit-equivalent amounts of off-balance-sheet items of state member banks are assigned to one of several broad risk categories, according to the obligor, or, if relevant, the guarantor or the nature of the collateral. The aggregate dollar value of the amount in each category is then multiplied by the risk weight associated with that category. In addition, a credit equivalent amount of each bank's excess measured exposure to interest rate risk is calculated. The weighted values from each of the risk categories and the credit equivalent amount for interest rate risk are added together, and this sum is the bank's total weighted-risk assets that comprise the denominator of the risk-based capital ratio. Attachment I provides a sample calculation.

* * * * *

F. Interest Rate Risk

Credit equivalent amounts for interest rate risk are calculated by multiplying a bank's excess measured exposure to interest rate risk by 12.5.

1. Definitions

(i) *Excess measured exposure* means the dollar amount of measured exposure to interest rate risk in excess of the supervisory threshold.

(ii) *Measured exposure* means the estimated dollar decline in the net economic value of the bank under the specified interest rate scenario, as determined pursuant to either a supervisory measure or, where the Board deems appropriate, the bank's internal measure of interest rate exposure. When the supervisory measure is used to calculate the bank's measured exposure pursuant to paragraph (2)(i), a bank's measured exposure is derived by calculating the bank's net risk-weighted position, as described in part I.A. of attachment VIII.

(iii) *Net economic value of a bank* means the net present value of its assets minus the net present value of its liabilities plus the net present value of its off-balance-sheet instruments.

(iv) *Net risk-weighted position* means the sum of all risk-weighted positions of a bank's assets, liabilities and off-balance-sheet items. For purposes of the supervisory measure, this number represents the amount by which the net economic value of the bank is estimated

to change in response to a potential change in market interest rates under the specified interest rate scenarios.

(v) *Supervisory threshold* means the equivalent of 1 percent of the bank's total assets.

2. Exemption for Banks With Low Risk

(i) *In general.* Except as provided in paragraph 2.(i), a state member bank's excess measured exposure shall be calculated pursuant to this section unless:

a. The total notional principal amount of the bank's off-balance-sheet interest rate contracts is less than 10% of total assets; and

b. 15 percent of the sum of fixed- and floating-rate loans and securities that mature or reprice beyond 5 years is less than 30 percent of total capital;

(ii) *Discretion of the Board.* The Board may require the calculation of a bank's excess measured exposure if the Board determines that such calculation is necessary to assess the capital adequacy of the bank.

3. Measured Exposure

(i) *Supervisory measure.* Except as provided in paragraph 3.(ii), a bank's measured exposure to interest rate risk shall be calculated pursuant to the supervisory measure set forth in attachment VIII to this appendix.

(ii) *Use of Internal Measure.* During each examination, or at the request of a bank, the Board will examine any internal measure of interest rate risk. If the bank's internal measure is acceptable to the Board in its sole discretion, then the bank's measure may be used in place of the supervisory model in determining the bank's excess measured exposure.

(iii) *Acceptable internal measure.* In determining whether a bank's internal measure of exposure to interest rate risk is acceptable, the Board will consider:

a. Whether the assumptions and structure of the supervisory measure accurately reflect the bank's assets, liabilities, and off-balance-sheet positions, and whether the internal measure provides a more precise measurement of the change in economic value of the bank;

b. Whether the internal measure makes use of generally accepted techniques in estimating measured exposure;

c. Whether the internal measure is appropriate to the nature and scope of the bank's activities; and

d. Whether the internal measure provides an adequate indication of the exposure of the bank to interest rate risk in all material respects.

(iv) *Requirement to use internal measure.* The Board may require that a bank use its existing internal measure for the purposes of this section if the Board determines that the internal measure represents the bank's positions more accurately than the supervisory model.

(v) *Interest rate scenario.* Measured exposure will be estimated for a specified change in the level of market interest rates, as provided in attachment VIII. This change will be a uniform increase of 2 percentage points (200 basis points) in market interest rates at all maturities.

3. Attachment I to Appendix A to part 208 is revised as follows:

Attachment I—Sample Calculation of Risk-Based Capital Ratio for State Member Banks

Example of a bank with $6,000 in total capital and the following assets and off-balance-sheet items.

Balance sheet assets:	
Cash	$5,000
U.S. Treasuries	20,000
Balances at domestic banks	5,000
Loans secured by first liens on 1- to 4- family residential properties	5,000
Loans to private corporations	65,000
Total Balance-Sheet Assets	100,000
Off-balance-sheet items:	
Standby letters of credit (SLCs) backing general-obligation debt issues of U.S. municipalities (GOs)	10,000
Long-term legally binding commitments to private corporations	20,000
Total Off-Balance-Sheet Items	30,000
Interest Rate Risk (IRR):	
Excess measured exposure to IRR	2,000

This bank's total capital to total assets (leverage) ratio would be: ($6,000/$100,000)=6.00%

To compute the bank's risk-weighted assets—

1. Compute the credit-equivalent amount of each off-balance-sheet (OBS) item.

Credit OBS

Item	Face value		Conversion factor		Equivalent amount
SLCs backing municipal GOs	$10,000	*	1.00	=	$10,000
Long-term commitments to private corporations	$20,000	*	0.50	=	$10,000

2. Compute the credit-equivalent amount of excess measured exposure to IRR.

Credit

Excess measured exposure		Conversion factor		Equivalent amount
$2,000	*	12.5	=	$25,000

3. Multiply each balance-sheet asset and the credit equivalent amount of each OBS item and excess measured exposure to IRR by the appropriate risk weight.

Credit

Item	Face value		Conversion factor		Equivalent amount
0% category:					
Cash	$5,000				
U.S. Treasuries	20,000				
	25,000	*	0	=	0
20% category:					
Balances at domestic banks	5,000				
Credit-equivalent amounts of SLCs backing GOs of U.S. municipalities	10,000				
	15,000	*	0.20	=	3,000
50% category:					
Loans secured by first liens on 1- to 4-family residential properties	5,000	*	0.50	=	2,500

Item	Credit Face value		Conversion factor		Equivalent amount
100% category:					
Loans to private corporations	65,000				
Credit-equivalent amounts of long-term commitments to private corporations	10,000				
Credit-equivalent amount of excess measured exposure to IRR	25,000				
	100,000	*	1.00	=	100,000
Total Risk-Weighted Assets					105,500

This bank's ratio of total capital to weighted-risk assets (risk-based capital ratio) would be: (6,000/$105,500)=5.69%.

Alternative Two (Risk Assessment Approach) for Appendix A to Part 208—Capital Adequacy Guidelines For State Member Banks: Risk-Based Measure

4. The sixth undesignated paragraph of section I of appendix A to part 208 is amended by adding the words "and interest rate risk, considering the bank's measured excess exposure to interest rate risk (as determined pursuant to attachment VIII) and other relevant factors" to the end of the first sentence.

2. Appendix A to part 208 is amended by adding Attachment VIII as follows:

Attachment VIII—Regulation H, Appendix A

Measurement of Interest Rate Risk for State Member Banks

I. Supervisory Measure

A. Measured Exposure to Interest Rates

A bank's measured exposure to interest rate risk is derived by calculating the bank's net risk-weighted position under two interest rate scenarios, a rise in interest rates and a fall in interest rates. If the bank's net risk-weighted position is positive under both scenarios, then the bank's measured exposure would be equal to zero. If the bank's net risk-weighted position is negative under one or both of the scenarios, then the bank's measured exposure would be equal to the larger decline in the net economic value of the bank under the two scenarios.

B. Calculation of Net Risk-Weighted Position

A bank's net risk-weighted position is calculated by multiplying its assets, liabilities, and off-balance-sheet positions by the appropriate risk weight for each scenario. The sum of the weighted values represents the net risk-weighted position or the dollar amount by which the bank's net economic value is estimated to change in response to each scenario.

The calculation is: (Assets Risk Weights) − (Liabilities Risk Weights) + (Off-Balance-Sheet Positions Risk Weight) = Net Risk Weighted Position. The resulting number is expressed as a percent of total assets and is the primary quantitative measure that would be used to evaluate a bank's measured exposure to IRR.

1. *Risk Weights.* For use in supervisory calculation of a bank's interest rate risk, reported asset, liability and off-balance-sheet positions will be multiplied by corresponding risk weights. The risk-weights estimate the sensitivity of the present value of each position to the specified interest rate scenario. The supervisory risk weights apply general assumptions regarding coupon rates and other characteristics of the underlying assets, liabilities, and off-balance-sheet instruments. Table 1 shows the risk weights developed for a 200 basis point parallel rise and fall in interest rates.

BILLING CODE 4810-33-M; 6210-01-M; 6714-01-M

Risk Weights

Table 1

Amortizing Instruments

Timeband	Scenario 1 200 Basis Point Rise % Change in Present Value (Risk Weights)	Scenario 2 200 Basis Point Decline % Change in Present Value (Risk Weights)
0-3 months	-0.10%	0.10%
3-12 months	-0.50%	0.60%
1-3 Years	-1.60%	1.70%
3-5 Years	-3.00%	3.10%
5-10 Years	-5.30%	3.40%
10-20 Years	-8.80%	5.90%
Over 20 Years	-9.20%	3.60%

All Other Instruments

0-3 months	-0.25%	0.25%
3-12 months	-1.20%	1.20%
1-3 Years	-3.50%	3.70%
3-5 Years	-6.40%	7.00%
5-10 Years	-10.20%	11.70%
10-20 Years	-14.90%	19.00%
Over 20 Years	-17.60%	24.60%

Liabilities

0-3 months	0.25%	-0.25%
3-12 months	1.20%	-1.20%
1-3 Years	3.70%	-3.90%
3-5 Years	6.90%	-7.50%
5-10 Years	11.60%	-13.50%
10-20 Years	18.70%	-24.50%
Over 20 Years	24.00%	-36.00%

Zero or Low Coupon Securities

0-3 months	-0.25%	0.25%
3-12 months	-1.20%	1.20%
1-3 Years	-3.70%	3.90%
3-5 Years	-7.40%	8.00%
5-10 Years	-13.30%	15.60%
10-20 Years	-24.90%	33.50%
Over 20 Years	-38.00%	61.90%

BILLING CODE 4810-33-C; 6210-01-C; 6714-01-C

2. *Reported Assets, Liabilities, and Off-Balance-Sheet Positions.* Assets, liabilities, and off-balance-sheet positions will be reported within the appropriate category and time band based on their remaining maturity, next repricing, average life, or other means as directed below.

C. Summary of Asset, Liability, and Off-Balance-Sheet Categories

1. *Adjustable-Rate Assets.* Adjustable-rate mortgage loans and adjustable-rate mortgage securities.

2. *Amortizing Fixed-rate Loans and Securities.* Fixed-rate mortgage securities, and asset-backed securities; fixed-rate mortgage loans, consumer loans and other instruments that involve scheduled periodic amortization of principal.

3. *Zero- or Low-Coupon Assets.* Securities with either no periodic interest payments or stated coupons of 2 percent or lower.

4. *Trading Account Items.* Trading account assets and related off-balance-sheet positions.

5. *High-risk Mortgage Security.* Mortgage derivative products that, at the time of purchase or at any subsequent time, that:

(a) Have an expected weighted average life greater than 10.0 years; or

(b) Have an expected weighted average life that:

(i) Extends by more than 4.0 years, assuming an immediate and sustained parallel shift in the yield curve of plus 300 basis points; or

(ii) Shortens by more than 6.0 years, assuming an immediate and sustained parallel shift in the yield curve of minus 300 basis points; or

(c) Has a change in price of greater than 17 percent, assuming an immediate sustained shift in the yield curve of plus or minus 300 basis points.

6. *All Other Assets.* All other interest-sensitive instruments, which are assumed to involve scheduled periodic payments of interest and the payment of principal at maturity.

7. *Liabilities.* All deposits and all non-deposit liabilities whose values are sensitive to movements in interest rates.

8. *Off-Balance-Sheet Items.* (1) Interest rate contracts, including swaps, forwards, options, and futures; (2) mortgage related fixed-rate commitments and other off-balance-sheet derivative instruments whose value depends on the value of an underlying asset or index with amortizing characteristics.

D. Summary of Time Intervals for Maturity and Repricing

Assets, liabilities and off-balance-sheet items are assigned (in part or in total) to one of seven maturity ranges:

- Up to 3 Months,
- 3 to 12 Months,
- 1 to 3 Years,
- 3 to 5 Years,
- 5 to 10 Years,
- 10 to 20 Years,
- Greater than 20 years.

E. Summary of Maturity and Repricing

1. *Maturity and Repricing—In General.* Except for mortgage derivative products and nonmaturity deposits, the remaining maturity of an asset, liability, or off-balance-sheet item is determined by the remaining time before maturity, or next actual or potential repricing date, associated with the outstanding principal or notional balances as specified by contract or agreement.

2. *Maturity and Repricing for Mortgage Derivative Products*—(a) *Use of Expected Average Life.* Maturity and repricing for mortgage derivative products other than high-risk mortgage securities will be defined as their current expected average life as determined by bank management.[2] Maturity and repricing of "high-risk" mortgage derivative products may be estimated by bank management. Otherwise, maturity and repricing of such products will be assumed to be in the "Greater Than 20 Years" time band.

(b) *Mortgage Derivative Products Defined.* Mortgage derivative products are defined as interest-only and principal-only stripped mortgage-backed securities (IOs and POs), tranches or collateralized mortgage obligations (CMOs) and real estate mortgage investment conduits (REMICs), CMO and REMIC residual securities and other instruments having the same characteristics as these securities.

3. *Maturity and Repricing for Nonmaturity Deposits*—(a) *Management determination of repricing and maturity.* Repricing and maturity for nonmaturity deposits is determined by bank management based on its own assumptions and experience, subject to the following constraints:

(i) Repricing and maturity for DDAs and MMDAs may not exceed three years, with a maximum of 40% of these balances in the "1–3 year" time band; and

(ii) Repricing and maturity for savings and NOW account balances may not exceed five years, with a maximum of 40% of the total of these balances in the "3–5 year" time band.

(b) *Nonmaturity deposits.* Nonmaturity deposits are defined as demand deposit accounts (DDAs), money market deposit accounts (MMDAs), savings accounts, and negotiable order of withdrawal accounts (NOWs).

F. Example of the Interest Rate Risk Measure

Table 2 is an interest rate risk worksheet that illustrates the method of which a bank's Net Risk-Weighted Position is calculated.

BILLING CODE 4810-33-M; 6210-01-M; 6714-01-M

[2] All underlying assumptions used in calculating the average life of these instruments must be reasonable and available for examiner review. For example, if an institution's prepayment assumptions differ significantly from the median prepayment assumptions of several major dealers as selected by examiners, the examiners may use these median prepayment assumptions in determining the appropriate average life of the instrument.

Interest Rate Risk Worksheet (200 Basis Point Rising Rate Scenario)
DRAFT

Table 2

REPORTING INSTITUTION: Sample Bank

Date: 12/31/92

$ Thousands

	(A) TOTAL	(B) Risk Weights	(C) Risk Weighted Position (A) x (B)	(D) Total Risk Weighted Position
I. INTEREST-SENSITIVE ASSETS				
1. ARMs, FRMs, asset-backed securities, consumer loans				
(a) Up to 3 months	$5,500	-0.10%	($6)	
(b) 3 to 12 months	$4,950	-0.50%	($25)	
(c) 1 to 3 years	$4,050	-1.60%	($65)	
(d) 3 to 5 years	$4,166	-3.00%	($125)	
(e) 5 to 10 years	$6,620	-5.30%	($351)	
(f) 10 to 20 years	$6,454	-8.80%	($568)	
(g) Greater than 20 years	$10,430	-9.20%	($960)	
2. Zero or low coupon securities				
(a) Up to 3 months	$1,000	-0.25%	($3)	
(b) 3 to 12 months	$1,000	-1.20%	($12)	
(c) 1 to 3 years	$1,000	-3.70%	($37)	
(d) 3 to 5 years	$0	-7.40%	$0	
(e) 5 to 10 years	$0	-13.30%	$0	
(f) 10 to 20 years	$0	-24.90%	$0	
(g) Greater than 20 years	$0	-38.00%	$0	
3. "All other" securities, loans, & trading account				
(a) Up to 3 months	$26,672	-0.25%	($67)	
(b) 3 to 12 months	$28,432	-1.20%	($341)	
(c) 1 to 3 years	$31,136	-3.50%	($1,090)	
(d) 3 to 5 years	$19,728	-6.40%	($1,263)	
(e) 5 to 10 years	$10,564	-10.20%	($1,078)	
(f) 10 to 20 years	$8,837	-14.90%	($1,317)	
(g) Greater than 20 years	$9,462	-17.60%	($1,665)	
4. High-risk mortgage securities				
(a) Self-reporting	$2,000		$160	
(b) Risk weighting	$1,000	-38.00%	($380)	
5. Total Interest-Sensitive Assets	$183,000		($9,190)	($9,190)
II. ALL OTHER ASSETS	$3,000			
III. TOTAL ASSETS	$186,000			
IV. INTEREST-SENSITIVE LIABILITIES				
1. Non-maturity deposits, time deposits and "all other"				
(a) Up to 3 months	$23,083	0.25%	$58	
(b) 3 to 12 months	$74,582	1.20%	$895	
(c) 1 to 3 years	$51,321	3.70%	$1,899	
(d) 3 to 5 years	$17,090	6.90%	$1,179	
(e) 5 to 10 years	$64	11.60%	$7	
(f) 10 to 20 years	$0	18.70%	$0	
(g) Greater than 20 years	$0	24.00%	$0	
2. Total Interest-Sensitive Liabilities	$166,140		$4,038	
V. NONINTEREST-SENSITIVE LIABILITIES	$860			
VI. TOTAL LIABILITIES	$167,000		$4,038	$4,038
VII. EQUITY CAPITAL	$19,001			
VIII. OFF-BALANCE-SHEET POSITIONS				
1. Interest rate contracts				
(a) Up to 3 months	$4,000	-0.25%	($10)	
(b) 3 to 12 months	$500	-1.20%	($6)	
(c) 1 to 3 years	($4,050)	-3.50%	$142	
(d) 3 to 5 years	($450)	-6.40%	$29	
(e) 5 to 10 years	$0	-10.20%	$0	
(f) 10 to 20 years	$0	-14.90%	$0	
(g) Greater than 20 years	$0	-17.60%	$0	
2. Mortgage and other amortizing contracts				
(a) Up to 3 months	$1,000	-0.10%	($1)	
(b) 3 to 12 months	$0	-0.50%	$0	
(c) 1 to 3 years	($1,000)	-1.60%	$16	
(d) 3 to 5 years	$0	-3.00%	$0	
(e) 5 to 10 years	$0	-5.30%	$0	
(f) 10 to 20 years	$0	-8.80%	$0	
(g) Greater than 20 years	$0	-9.20%	$0	
3. Total Off-Balance-Sheet Positions	$0		$170	$170
Net Risk Weighted Position				($4,981.86)
Net Position/ Assets				-2.68%

BILLING CODE 4810-33-C; 6210-01-C; 6714-01-C

II. Internal Measure

A state member bank's internal measure for interest rate risk will be evaluated and, if the measure is used in assessing the bank's measured exposure, calculated according to the following interest rate scenario:

Maturity	Scenario annual horizon (basis points)
0–3 Months	200
3–12 Months	200
1–3 Years	200
3–5 Years	200
5–10 Years	200
10–20 Years	200
Over 20 Years	200

This signature page relates to the Joint Notice of Proposed Rulemaking title Risk-Based Capital Standards: Interest Rate Risk, Office of the Comptroller of the Currency, Department of the Treasury, Docket Number R–0802.

By Order of the Board of Governors of the Federal Reserve System.

Dated: August 27, 1993.

William Wiles,

Secretary of the Board.

FEDERAL DEPOSIT INSURANCE CORPORATION

Authority and Issuance

For reasons set out in the joint preamble, part 325 of chapter III of title 12 of the Code of Federal Regulations is proposed to be amended as set forth below.

PART 325—CAPITAL MAINTENANCE

1. The authority citation for part 325 continues to read as follows:

Authority: 12 U.S.C. 1815(a), 1815(b), 1816, 1818(a), 1818(b), 1818(c), 1818(t), 1819(Tenth), 1828(c), 1828(d), 1828(i), 1828(n), 1828(o), 1831o, 3907, 3909; Public Law 102–233, 105 Stat. 1761, 1789, 1790 (12 U.S.C. 1831n note); Public Law 102–242, 105 Stat. 2236, 2386 (12 U.S.C. 1828 note).

ALTERNATIVE ONE (MINIMUM CAPITAL STANDARD APPROACH) FOR APPENDIX A TO SUBPART A OF PART 325—THE STATEMENT OF POLICY ON RISK-BASED CAPITAL

2. Section II of appendix A to subpart A of part 325 is amended by revising the first undesignated paragraph under paragraph A and by adding a new paragraph F. to read as follows:

Appendix A to Subpart A of Part 325—Statement of Policy on Risk-Based Capital

* * * * *

A. * * *

Under the risk-based capital framework, a bank's balance sheet assets and credit equivalent amounts of off-balance-sheet items are assigned to one of four broad risk categories according to the obligor or, if relevant, the guarantor or the nature of the collateral. The aggregate dollar amount in each category is then multiplied by the risk weight assigned to that category. In addition, a risk-weighted asset amount of a bank's excess measured exposure to interest rate risk (as determined pursuant to paragraph II.F. of this appendix) is calculated. The resulting weighted values from each of the four risk weight categories and the risk-weighted asset amount for interest rate risk are added together and this sum is the risk-weighted assets total that, as adjusted,[11] comprises the denominator of the risk-based capital ratio.

* * * * *

F. *Risk Weighted Asset Amount for Excessive Interest Rate Risk Exposure.* If a bank is required to maintain additional capital for excessive interest rate risk exposure, as determined in accordance with appendix C to subpart A of part 325, the dollar amount of this additional capital requirement for interest rate risk should be multiplied by 12.5. The resulting amount should be included in the denominator for risk-weighted assets. For example, if the capital required for excessive interest rate risk under appendix C is $100,000, the amount to be included in risk-weighted assets for this interest rate risk exposure will be $1,250,000. Thus, consistent with the 8 percent minimum total risk-based capital ratio that banks are required to maintain under this risk-based capital policy statement, if $100,000 in additional capital is required to be maintained for interest rate risk pursuant to appendix C, this amount will equal 8 percent of the $1,250,000 additional amount to be included in risk-weighted assets.

ALTERNATIVE TWO (RISK ASSESSMENT APPROACH) FOR APPENDIX A TO SUBPART A OF PART 325—THE STATEMENT OF POLICY ON RISK-BASED CAPITAL

3. The fifth undesignated paragraph of appendix A to subpart A of part 325 (the FDIC's Statement of Policy on Risk-Based Capital) is revised to read as follows:

Appendix A to Subpart A of Part 325—Statement of Policy on Risk-Based Capital

* * * * *

The risk-based capital ratio focuses principally on broad categories of credit risk; however, the ratio does not take account of many other factors that can affect a bank's financial condition. These factors include overall interest rate risk exposure; liquidity, funding and market risks; the quality and level of earnings; investment, loan portfolio, and other concentrations of credit risk; certain risks arising from nontraditional activities; the quality of loans and investments; the effectiveness of loan and investment policies; and management's overall ability to monitor and control financial and operating risks, including the risk presented by concentrations of credit and nontraditional activities. In addition to evaluating capital ratios, an overall assessment of capital adequacy must take account of each of these other factors, including, in particular, the level and severity of problem and adversely classified assets as well as a bank's excess measured exposure to interest rate risk. For this reason, the final supervisory judgment on a bank's capital adequacy may differ significantly from the conclusions that might be drawn solely from the absolute level of the bank's risk-based capital ratio.

[11] Any asset deducted from a bank's capital accounts when computing the numerator of the risk-based capital ratio will also be excluded from risk-weighted assets when calculating the denominator for the ratio.

4. Subpart A of part 325 is revised by adding a new appendix C to read as follows:

Appendix C to Subpart A of Part 325—Measurement of and the Assessment of Capital Requirements for Interest Rate Risk

This appendix sets forth a system for measuring IRR and determining if additional capital may be required in order to take adequate account of a bank's interest rate risk.

I. Definitions

A. *Excess Measured Exposure* means the dollar amount of measured exposure to interest rate risk in excess of the supervisory threshold.

B. *Measured Exposure* means the estimated dollar decline in the net economic value of a bank under the specified interest rate scenario(s) as determined pursuant to either a supervisory measure or, where the FDIC deems appropriate, the bank's internal measure of interest rate risk exposure. When the supervisory measure is used to calculate the bank's measured exposure pursuant to section III of this appendix, a bank's measured exposure is derived by calculating the bank's net risk-weighted position.

C. *Net Economic Value of a Bank* means the net present value of its assets minus the net present value of its liabilities plus the net present value of its off-balance-sheet instruments.

D. *Net Risk-Weighted Position* means the sum of all risk-weighted values of the bank's assets, liabilities and off-balance-sheet positions. For purposes of the supervisory measure, this number represents the amount by which the bank's net economic value is estimated to change in response to the interest rate scenario(s). This number may be expressed as a percentage of total assets or in dollar amounts.

E. *Supervisory Threshold* means the equivalent of 1 percent of the bank's total assets.

II. Applicability

A. Exemption Test for Banks with Low Risk

1. *General Rule.* Except as provided in paragraph A.2. a bank's excess measured exposure will be calculated pursuant to this appendix unless:

(a) The total notional principle amount of the bank's off-balance-sheet interest rate

contracts is less than 10 percent of total assets; and

(b) 15 percent of the sum of fixed- and floating-rate loans and securities that mature or reprice beyond 5 years is less than 30 percent of total capital.

2. *Discretion of the FDIC.* The FDIC may require the calculation of a bank's excess measured exposure if the FDIC determines, based on an overall assessment of the bank's financial condition, that such calculation is necessary to assess the capital adequacy of the bank.

III. Supervisory Measure

A. Measured Exposure to Interest Rates

A bank's measured exposure to interest rate risk must be calculated pursuant to the supervisory measure as specified in section III.C. and III.D. of this appendix C.

B. Calculation of Net Risk-Weighted Position

A bank's net risk-weighted position is calculated by multiplying its assets, liabilities, and off-balance-sheet positions by the appropriate risk weight [1] for each specified rate scenario. The sum of the weighted values represents the net risk-weighted position or the dollar amount by which the bank's net economic value is estimated to change in response to each scenario.

The calculation is as follows:

(Assests × Risk Weights) − (Liabilities × Risk Weights) + (Off-Balance-Sheet Positions × Risk Weight) = Net Risk Weighted Position

The resulting number is expressed in dollars and may be divided by total assets and expressed as a percent of total assets. It is the primary quantitative measure that would be used to evaluate a bank's measured exposure to interest rate risk.

[1] Risk weights estimate the sensitivity of the present value of assets, liabilities and off-balance-sheet positions to the specified interest rate scenario(s). The supervisory risk weights apply general assumptions regarding coupon rates and other characteristics of the underlying assets, liabilities and off-balance-sheet instruments. Table 1 shows the risk weights developed for a [200 basis point] parallel rise and fall in interest rates.

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Risk Weights

Table 1

Amortizing Instruments

Timeband	Scenario 1: 200 Basis Point Rise — % Change in Present Value (Risk Weights)	Scenario 2: 200 Basis Point Decline — % Change in Present Value (Risk Weights)
0-3 months	-0.10%	0.10%
3-12 months	-0.50%	0.60%
1-3 Years	-1.60%	1.70%
3-5 Years	-3.00%	3.10%
5-10 Years	-5.30%	3.40%
10-20 Years	-8.80%	5.90%
Over 20 Years	-9.20%	3.60%

All Other Instruments

0-3 months	-0.25%	0.25%
3-12 months	-1.20%	1.20%
1-3 Years	-3.50%	3.70%
3-5 Years	-6.40%	7.00%
5-10 Years	-10.20%	11.70%
10-20 Years	-14.90%	19.00%
Over 20 Years	-17.60%	24.60%

Liabilities

0-3 months	0.25%	-0.25%
3-12 months	1.20%	-1.20%
1-3 Years	3.70%	-3.90%
3-5 Years	6.90%	-7.50%
5-10 Years	11.60%	-13.50%
10-20 Years	18.70%	-24.50%
Over 20 Years	24.00%	-36.00%

Zero or Low Coupon Securities

0-3 months	-0.25%	0.25%
3-12 months	-1.20%	1.20%
1-3 Years	-3.70%	3.90%
3-5 Years	-7.40%	8.00%
5-10 Years	-13.30%	15.60%
10-20 Years	-24.90%	33.50%
Over 20 Years	-38.00%	61.90%

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C. Calculation of Measured Exposure

If the net risk-weighted position is positive under the specified interest rate scenario(s), the measured exposure would be equal to zero. If the net risk-weighted position is negative under the specified interest rate scenario(s), the measured exposure would be equal to the larger decline in the net economic value of the bank.

D. Calculation of Excess Measured Exposure

1. The dollar amount of the supervisory threshold would be subtracted from the absolute dollar amount of the measured exposure. The positive difference would equal the excess measured exposure.

Measured Exposure − (.01Total Assets)=Excess Measured Exposure

2. If the amount of the supervisory threshold were greater than the measured exposure, the excess measured exposure would be zero.

E. Interest Rate Scenario

Measured exposure will be estimated for a uniform increase and decrease of 2 percentage points (200 basis points) in market interest rates at all maturities.

IV. Reporting Requirements

Assets, liabilities and off-balance-sheet positions will be reported within the appropriate category and time band based upon their remaining maturities, nearest repricing dates, average life or other means as directed below.

A. Summary of Assets, Liabilities and Off-Balance-Sheet Categories

1. *Adjustable-Rate Assets.* Adjustable-rate mortgage loans and adjustable-rate mortgage securities.

2. *Fixed-Rate Assets.* Fixed-rate mortgage securities and asset-backed securities; fixed-rate mortgage loans, consumer loans and other instruments that have scheduled periodic amortization of principal.

3. *Zero- or Low-Coupon Assets.* Securities with either no periodic interest payments or with stated coupons of 2 percent or lower.

4. *Trading Account Assets.* Trading account assets and related off-balance-sheet instruments.

5. *High-Risk Mortgage Securities.* Mortgage derivative products that, at the time of purchase or at any subsequent time:

(a) Have an expected weighted average life greater than 10.0 years; or

(b) Have an expected weighted average life that:

(i) Extends by more than 4.0 years, assuming an immediate and sustained parallel shift in the yield curve of plus 300 basis points; or

(ii) Shortens by more than 6.0 years, assuming an immediate and sustained parallel shift in the yield curve of minus 300 basis points; or

(c) Has a change in price of greater than 17 percent, assuming an immediate sustained parallel shift in the yield curve of plus or minus 300 basis points.

6. *All Other Assets.* All other interest-sensitive instruments, which have scheduled periodic payments of interest and the payment of principal at maturity.

7. *Liabilities.* All deposits and all non-deposit liabilities whose values are sensitive to movements in interest rates.

8. *Off-Balance-Sheet Positions.* (a) Interest-rate contracts including swaps, forwards, options, and futures.

(b) Mortgage-related fixed-rate commitments and other off-balance-sheet derivative instruments whose value depends on the value of an underlying asset or index with amortizing characteristics.

B. Summary of Time Bands for Maturity and Repricing

Assets, liabilities and off-balance-sheet items are assigned (in part or in total) to one of seven maturity ranges:

- Up to 3 months,
- 3 to 12 months,
- 1 to 3 years,
- 3 to 5 years,
- 5 to 10 years,
- 10 to 20 years,
- Greater than 20 years.

C. Summary of Maturity and Repricing Instructions

1. *Maturity and Repricing for Assets, Liabilities and Off-Balance-Sheet Positions.* Remaining time before maturity, or next actual or potential repricing date, associated with outstanding principal or notional balances as specified in a contract or agreement with the exception of:

(a) *Maturity and Repricing for Mortgage Derivative Products.* Mortgage derivative products are defined as stripped mortgage-backed securities, tranches of collateralized mortgage obligations (CMOs) and real estate mortgage investment conduits (REMICs), CMO and REMIC residual securities and other instruments having the same characteristics as these securities.

For mortgage derivative products, other than those which may be deemed as a "high-risk mortgage security" by the FDIC, current average life will be reported in lieu of maturity or repricing dates in the "All Other Securities" category.[2] The carrying value of "high-risk mortgage securities" will be reported in the "High-Risk Mortgage Securities" category.[3] If not, maturity and repricing of high-risk mortgage securities will be as if the entire balance were a zero or low coupon instrument in the longest time band.

(b) *Maturity and Repricing for Non-Maturity Deposits.*

(i) *Non-maturity deposits* are defined as Demand Deposits Accounts (DDAs), Money Market Deposit Accounts (MMDAs), savings accounts, and Negotiable Order of Withdrawal accounts (NOWs).

(ii) *Management determination of repricing and maturity.* Repricing and maturity for non-maturity deposits are determined by bank management based on its own assumptions and experience, subject to the following constraints:

(1) Repricing and maturity for Demand Deposit Accounts (DDAs) and Money Market Deposit Accounts (MMDAs) may not exceed three years, with a maximum of 40 percent of these balances in the "1–3 year" time band; and

(2) Repricing and maturity for savings and Negotiable Order of Withdrawal (NOW) account balances may not exceed five years, with a maximum of 40 percent of the total of these balances in the "3–5 year" time band.

(iii) *Maturity and Repricing for Off-Balance-Sheet Positions.* Off-balance-sheet positions with option characteristics (e.g, options, caps, floors) are reported separately from those representing firm commitments (e.g., swaps, futures, and forward-rate agreements). Mortgage-related fixed rate commitments and other off-balance-sheet derivative instruments whose value depends on the value of an underlying asset or index with amortizing characteristics are reported separately.

D. Example of the Interest Rate Risk Measure

Tables 2 and 3 are interest rate risk worksheets that illustrate the method by which a bank's Net Risk-Weighted Position is calculated.

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[2] All underlying assumptions used in calculating the average life of these instruments must be reasonable and available for examiner review. For example, if an institution's prepayment assumptions differ significantly from the median prepayment assumptions of several major dealers as selected by examiners, the examiners may use these median prepayment assumptions in determining the appropriate average life of the instrument.

[3] The interest rate sensitivity of high-risk mortgage securities purchased after February 10, 1992 must be reported in the memorandum items. The interest rate sensitivity of "high-risk mortgage securities" purchased prior to February 10, 1992 can be reported as a memorandum item.

Interest Rate Risk Worksheet (200 Basis Point Rising Rate Scenario)
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Table 2

REPORTING INSTITUTION: Sample Bank

Date: 12/31/92

$ Thousands

	(A) TOTAL	(B) Risk Weights	(C) Risk Weighted Position (A) x (B)	(D) Total Risk Weighted Position
I. INTEREST-SENSITIVE ASSETS				
1. ARMs, FRMs, asset-backed securities, consumer loans				
(a) Up to 3 months	$5,500	-0.10%	($6)	
(b) 3 to 12 months	$4,950	-0.50%	($25)	
(c) 1 to 3 years	$4,050	-1.60%	($65)	
(d) 3 to 5 years	$4,166	-3.00%	($125)	
(e) 5 to 10 years	$6,620	-5.30%	($351)	
(f) 10 to 20 years	$6,454	-8.80%	($568)	
(g) Greater than 20 years	$10,430	-9.20%	($960)	
2. Zero or low coupon securities				
(a) Up to 3 months	$1,000	-0.25%	($3)	
(b) 3 to 12 months	$1,000	-1.20%	($12)	
(c) 1 to 3 years	$1,000	-3.70%	($37)	
(d) 3 to 5 years	$0	-7.40%	$0	
(e) 5 to 10 years	$0	-13.30%	$0	
(f) 10 to 20 years	$0	-24.90%	$0	
(g) Greater than 20 years	$0	-38.00%	$0	
3. "All other" securities, loans, & trading account				
(a) Up to 3 months	$26,672	-0.25%	($67)	
(b) 3 to 12 months	$28,432	-1.20%	($341)	
(c) 1 to 3 years	$31,136	-3.50%	($1,090)	
(d) 3 to 5 years	$19,728	-6.40%	($1,263)	
(e) 5 to 10 years	$10,564	-10.20%	($1,078)	
(f) 10 to 20 years	$8,837	-14.90%	($1,317)	
(g) Greater than 20 years	$9,462	-17.60%	($1,665)	
4. High-risk mortgage securities				
(a) Self-reporting	$2,000		$160	
(b) Risk weighting	$1,000	-38.00%	($380)	
5. Total Interest-Sensitive Assets	$183,000		($9,190)	($9,190)
II. ALL OTHER ASSETS	$3,000			
III. TOTAL ASSETS	$186,000			
IV. INTEREST-SENSITIVE LIABILITIES				
1. Non-maturity deposits, time deposits and "all other"				
(a) Up to 3 months	$23,083	0.25%	$58	
(b) 3 to 12 months	$74,582	1.20%	$895	
(c) 1 to 3 years	$51,321	3.70%	$1,899	
(d) 3 to 5 years	$17,090	6.90%	$1,179	
(e) 5 to 10 years	$64	11.60%	$7	
(f) 10 to 20 years	$0	18.70%	$0	
(g) Greater than 20 years	$0	24.00%	$0	
2. Total Interest-Sensitive Liabilities	$166,140		$4,038	
V. NONINTEREST-SENSITIVE LIABILITIES	$860			
VI. TOTAL LIABILITIES	$167,000		$4,038	$4,038
VII. EQUITY CAPITAL	$19,001			
VIII. OFF-BALANCE-SHEET POSITIONS				
1. Interest rate contracts				
(a) Up to 3 months	$4,000	-0.25%	($10)	
(b) 3 to 12 months	$500	-1.20%	($6)	
(c) 1 to 3 years	($4,050)	-3.50%	$142	
(d) 3 to 5 years	($450)	-6.40%	$29	
(e) 5 to 10 years	$0	-10.20%	$0	
(f) 10 to 20 years	$0	-14.90%	$0	
(g) Greater than 20 years	$0	-17.60%	$0	
2. Mortgage and other amortizing contracts				
(a) Up to 3 months	$1,000	-0.10%	($1)	
(b) 3 to 12 months	$0	-0.50%	$0	
(c) 1 to 3 years	($1,000)	-1.60%	$16	
(d) 3 to 5 years	$0	-3.00%	$0	
(e) 5 to 10 years	$0	-5.30%	$0	
(f) 10 to 20 years	$0	-8.80%	$0	
(g) Greater than 20 years	$0	-9.20%	$0	
3. Total Off-Balance-Sheet Positions	$0		$170	$170
Net Risk Weighted Position				($4,981.80)
Net Position/ Assets				-2.68%

Interest Rate Risk Worksheet (200 Basis Point Declining Rate Scenario)
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Table 3

REPORTING INSTITUTION: Sample Bank

Date: 12/31/92

$ Thousands

	(A) TOTAL	(B) Risk Weights	(C) Risk Weighted Position (A) x (B)	(D) Total Risk Weighted Position
I. INTEREST-SENSITIVE ASSETS				
1. ARMs, FRMs, asset-backed securities, consumer loans				
(a) Up to 3 months	$5,500	0.10%	$6	
(b) 3 to 12 months	$4,950	0.60%	$30	
(c) 1 to 3 years	$4,050	1.70%	$69	
(d) 3 to 5 years	$4,166	3.10%	$129	
(e) 5 to 10 years	$6,620	3.40%	$225	
(f) 10 to 20 years	$6,454	5.90%	$381	
(g) Greater than 20 years	$10,430	3.60%	$375	
2. Zero or low coupon securities				
(a) Up to 3 months	$1,000	0.25%	$3	
(b) 3 to 12 months	$1,000	1.20%	$12	
(c) 1 to 3 years	$1,000	3.90%	$39	
(d) 3 to 5 years	$0	8.00%	$0	
(e) 5 to 10 years	$0	15.60%	$0	
(f) 10 to 20 years	$0	33.50%	$0	
(g) Greater than 20 years	$0	61.90%	$0	
3. "All other" securities, loans, & trading account				
(a) Up to 3 months	$26,672	0.25%	$67	
(b) 3 to 12 months	$28,432	1.20%	$341	
(c) 1 to 3 years	$31,136	3.70%	$1,152	
(d) 3 to 5 years	$19,728	7.00%	$1,381	
(e) 5 to 10 years	$10,564	11.70%	$1,236	
(f) 10 to 20 years	$8,837	19.00%	$1,679	
(g) Greater than 20 years	$9,462	24.60%	$2,328	
4. High-risk mortgage securities				
(a) Self-reporting	$2,000		($200)	
(b) Risk weighting	$1,000	-38.00%	($380)	
5. Total Interest-Sensitive Assets	$183,000		$8,871	$8,871
II. ALL OTHER ASSETS	$3,000			
III. TOTAL ASSETS	$186,000			
IV. INTEREST-SENSITIVE LIABILITIES				
1. Non-maturity deposits, time deposits and "all other"				
(a) Up to 3 months	$38,583	-0.25%	($96)	
(b) 3 to 12 months	$77,582	-1.20%	($931)	
(c) 1 to 3 years	$39,821	-3.90%	($1,553)	
(d) 3 to 5 years	$10,090	-7.50%	($757)	
(e) 5 to 10 years	$64	-13.50%	($9)	
(f) 10 to 20 years	$0	-24.50%	$0	
(g) Greater than 20 years	$0	-36.00%	$0	
2. Total Interest-Sensitive Liabilities	$166,140		($3,346)	
V. NONINTEREST-SENSITIVE LIABILITIES	$860			
VI. TOTAL LIABILITIES	$167,000		($3,346)	($3,346)
VII. EQUITY CAPITAL	$19,001			
VIII. OFF-BALANCE-SHEET POSITIONS				
1. Interest rate contracts				
(a) Up to 3 months	$4,000	0.25%	$10	
(b) 3 to 12 months	$500	1.20%	$6	
(c) 1 to 3 years	($4,050)	3.70%	($150)	
(d) 3 to 5 years	($450)	7.00%	($32)	
(e) 5 to 10 years	$0	11.70%	$0	
(f) 10 to 20 years	$0	19.00%	$0	
(g) Greater than 20 years	$0	24.60%	$0	
2. Mortgage and other amortizing contracts				
(a) Up to 3 months	$1,000	0.10%	$1	
(b) 3 to 12 months	$0	0.60%	$0	
(c) 1 to 3 years	($1,000)	1.70%	($17)	
(d) 3 to 5 years	$0	3.10%	$0	
(e) 5 to 10 years	$0	3.40%	$0	
(f) 10 to 20 years	$0	5.90%	$0	
(g) Greater than 20 years	$0	3.60%	$0	
3. Total Off-Balance-Sheet Positions	$0		($181)	($181)
Net Risk Weighted Position				$5,344.31
Net Position/ Assets				2.87%

BILLING CODE 4810-33-C; 6210-01-C; 6714-01-C

V. Use of Internal Measures

A. Supervisory Measure

Except as provided in paragraph B, a bank's measured exposure to interest rate risk will be calculated pursuant to the supervisory measure set forth in section III of this appendix.

B. Use of Internal Measure

During an examination or at the request of a bank, the FDIC will evaluate any internal measure of interest rate risk exposure. If the bank's internal measure is acceptable to the FDIC, in its sole discretion, then the bank's measure may be used in place of the supervisory model in determining the bank's excess measured exposure.

C. Acceptable Internal Measure

In determining whether a bank's internal measure of exposure to interest rate risk is acceptable, the FDIC will consider:

1. Whether the assumptions and structure of the supervisory measure accurately reflect the actual positions, and whether the internal measure provides a more precise measurement of the change in economic value of the bank;

2. Whether the internal measure makes use of generally accepted techniques in estimating measured exposure;

3. Whether the internal measure is appropriate to the nature and scope of the bank's activities; and

4. Whether the internal measure provides an adequate indication of the exposure of the bank to interest rate risk in all material respects.

D. Requirement To Use Internal Measure

The FDIC may require that a bank use an existing internal measure for purposes of determining interest rate risk exposure if:

1. The supervisory measure does not adequately characterize the interest rate risk of the bank's positions; or

2. Use of the supervisory measure would materially misrepresent the bank's actual interest rate risk exposure.

The excess measured exposure determined by the internal measure would then be utilized to determine the risk-based capital requirement.

E. Reporting Requirements

In addition to completing the reporting requirements associated with the supervisory measure, a bank utilizing the internal measure would also report the interest rate sensitivity of its assets, liabilities and off-balance-sheet positions, as determined by its internal measure, on a separate reporting schedule.

F. Interest Rate Scenario(s)

The interest rate scenario(s) specified for the supervisory model (as set forth in section III.E. of this appendix) should also be utilized in conjunction with a bank's internal measure.

By order of the Board of Directors.

Dated at Washington, DC, this 9th day of June, 1993.

Federal Deposit Insurance Corporation.

Hoyle L. Robinson,

Executive Secretary.

[FR Doc. 93–22149 Filed 9–13–93; 8:45 am]

BILLING CODE 4810–33–M, 6210–01–M, 6714–01–M