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RESERVE BANK OF INDIA
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RBI/2016-17/
DBR.No.BP.BC…/21.07.005/2016-17 February 2, 2017

The Managing Director/
Chief Executive Officer of
All Scheduled Commercial Banks
(Excluding Regional Rural Banks)

Madam / Dear Sir,

Draft Guidelines on governance, measurement and management of Interest Rate Risk in Banking Book

Please refer to the paragraph 5 of the Statement on Developmental and Regulatory Policies, by RBI, dated October 4, 2016. It was indicated therein that RBI would issue draft guidelines on Interest Rate Risk in Banking Book (IRRBB).

2. The draft guidelines on IRRBB are annexed. You are requested to provide your feedback/comments on the provisions of the draft guidelines by March 3, 2017.

Yours faithfully,

(S. S. Barik)
Chief General Manager-in-Charge

Encl: as above

Annex

Draft Guidelines on Interest Rate Risk in Banking Book

Interest Rate Risk

1. The Interest Rate Risk (IRR) is the risk where changes in market interest rates affect a bank's financial position. The changes in interest rates impact a bank's earnings (i.e. reported profits) through changes in its Net Interest Income (NII) and also impact Market Value of Equity (MVE) or Net Worth through changes in the economic value of its rate sensitive assets, liabilities and off-balance sheet positions. The interest rate risks, when viewed from these two perspectives, are known as 'earnings perspective' and 'economic value perspective', respectively. Generally, the former is measured using the Traditional Gap Analysis (TGA) and the latter is measured by using more sophisticated methods like Duration Gap Analysis (DGA). The present RBI guidelines on IRR require banks to carry out both the analyses. The focus of the TGA is to measure the level of a bank's exposure to interest rate risk in terms of sensitivity of its NII to interest rate movements over a period of one year. It involves bucketing of all rate sensitive assets (RSA) and rate sensitive liabilities (RSL) and off balance sheet items as per residual maturity/ re-pricing date in various time bands, (circular DBOD.BP.BC.8/21.04.098/99 dated February 10, 1999) and computing Earnings at Risk (EaR) i.e. loss of income under different interest rate scenarios over a time horizon of one year. The focus of the DGA is to measure the level of a bank's exposure to interest rate risk in terms of sensitivity of MVE to interest rate movements. The DGA involves bucketing of all RSA and RSL as per residual maturity/ re-pricing dates in various time bands and computing the Modified Duration Gap (MDG). The RSA and RSL include the rate sensitive off balance sheet asset and liabilities. MDG can be used to evaluate the impact on the MVE of the bank under different interest rate scenarios.

2. The RBI guidelines on Asset liability Management (ALM) system dated February 10, 1999 require banks to perform Traditional Gap Analysis (TGA). The gap analysis measures mismatches between rate sensitive assets and rate sensitive liabilities by grouping them into various time buckets. Banks are required to set prudential limits on individual gaps with the approval of their Board/Management Committee. Banks are also required to perform DGA vide circular dated November 4, 2010.

3. Banks are required to set appropriate internal limits on Earnings at Risk (EaR) and on the volatility in the Market Value of Equity with the approval of its Board / Risk Management Committee of the Board. These limits may be linked to MVE for DGA and the NII (for TGA). Further, the Board / Asset Liability Management Committee (ALCO) must also periodically review the above limits after assessing various scenarios of interest rates and the resultant volatility of earnings in terms of Net Interest Income and volatility in net worth.

4. The extant guidelines provide detailed guidance to banks to bucket various positions in different time bands depending on their interest rate risk sensitivity. For certain types of deposits, like current deposits or savings bank deposits which are essentially Non Maturity Deposits (NMDs), banks are required to estimate behavioural patterns and place them into appropriate buckets. Banks, which are not able to estimate these behavioural patterns, are required to follow the standardised approach.

Interest Rate Risk in Banking Book

5. Interest Rate Risk in Banking Book (IRRBB) refers to the current or prospective risk to a bank's capital and earnings arising from adverse movements in interest rates that affect banking book positions. When interest rates change, the present value and timing of future cash flows change. This in turn changes the underlying value of a bank's assets, liabilities and off-balance sheet items and hence its economic value. Changes in interest rates also affect a bank's earnings by altering interest rate-sensitive income and expenses, affecting its net interest income (NII). Excessive IRRBB can pose a significant threat to a bank's current capital base and/or future earnings if not managed appropriately.

Capital requirements for Interest Rate Risk

6. Banks are required to compute capital requirements for interest rate risk in trading book positions, and the resultant risk weighted assets are added to banks' total risk weighted assets. As a part of Pillar 2 of Basel III Capital regulations, banks are required to identify the risks associated with the changing interest rates on its on-balance sheet and off-balance sheet exposures in the banking book from both, short-term and long-term perspective. It is also mentioned that banks can decide, with the approval of the Board, on the appropriate level of interest rate risk in the banking book, which they would like to carry keeping in view their capital level, interest rate

management skills and the ability to re-balance the banking book portfolios quickly in case of adverse movement in the interest rates.

7. A level of interest rate risk, which generates a drop in the MVE of more than 20 per cent with an interest rate shock of 200 basis points, is treated as excessive, and such banks may be required by the RBI to hold additional capital against IRRBB as determined during the Supervisory Review and Evaluation Process (SREP). Banks, which have IRRBB exposure equivalent to less than 20 per cent drop in the MVE may be required to hold additional capital if the level of interest rate risk is considered, by the RBI, to be high in relation to their capital level or the quality of interest rate risk management framework obtaining in the bank. While banks may on their own decide to hold additional capital towards IRRBB keeping in view the potential drop in their MVE, the IRR management skills and the ability to re-balance the portfolios quickly in case of adverse movement in the interest rates, the amount of exact capital add-on, if considered necessary, may have to be decided by the RBI as part of the SREP, in consultation with the bank concerned.

Need for specific requirements on IRRBB

8. Basel Committee on Banking Supervision (BCBS) in April 2016, finalised its standards on Interest Rate Risk in Banking Book (IRRBB), with a target of implementation by 2018. This standard, inter alia, requires banks to disclose the impact of interest rate shocks on their change in economic value of equity (ΔEVE) and net interest income (ΔNII), computed based on a set of prescribed interest rate shock scenarios. As mentioned earlier, the present guidelines require banks in India to compute ΔEVE and ΔNII for the entire balance sheet and not just for the banking book positions and report to RBI. However, in order to promote global consistency, transparency and comparability of IRRBB with that of global banks, it is considered appropriate to require banks to compute IRRBB separately and disclose it based on BCBS prescribed standards. While there is an explicit capital requirement for IRR for positions in the trading book under pillar 1, there is no capital requirement for Interest Rate Risk in Banking Book (IRRBB) under Pillar 1. IRRBB is covered under Pillar 2. As IRRBB is a material source of risk to the banks in the long run, it is considered desirable to enhance the requirements applicable to IRRBB.

9. IRRBB is an important risk that arises from banking activities, and is encountered by all banks. It arises because interest rates can vary significantly over time, while the business of banking typically involves intermediation activity that produces

exposures to both maturity mismatch (eg long-maturity assets funded by short-maturity liabilities) and rate mismatch (eg fixed rate loans funded by variable rate deposits). In addition, there are optionalities embedded in many of the common banking products (eg non-maturity deposits, term deposits, fixed rate loans) that are triggered in accordance with changes in interest rates.

10. It has been considered appropriate to enhance guidelines on IRRBB. The enhanced guidelines on IRRBB governance and measurement are provided below. Banks are required to implement these guidelines from April 1, 2019. Banks would continue to follow existing guidelines on IRR which is applicable to entire balance sheet.

Enhanced Guidelines on IRRBB:

Governance

11. Banks should have clearly defined risk appetite statement for IRRBB approved by their Board which lays down policies and procedures for limiting and controlling IRRBB. The risk appetite statement should lay down aggregate risk limit which is the amount of IRRBB acceptable to the Board for the consolidated bank level. Risk limits may also be prescribed at the level of individual entities as well. The limits may be associated with specific scenarios of changes in interest rates and/or term structures, such as an increase or decrease of a particular size or a change in shape. The interest rate movements used in developing these limits should represent meaningful shock and stress situations, taking into account historical interest rate volatility and the time required by management to mitigate those risk exposures.

12. The Board should regularly monitor the nature and the level of the bank's IRRBB exposure. The Board should approve broad business strategies as well as overall policies with respect to IRRBB. It should ensure that there is clear guidance regarding the acceptable level of IRRBB, given the bank's business strategies.

13. Banks should have clearly defined procedures to approve major hedging or risk-taking initiatives in advance of implementation. A dedicated set of risk limits should be developed to monitor the evolution of hedging strategies that rely on instruments such as derivatives, and to control mark-to-market risks in instruments that are accounted for at market value. The proposals to use new instrument types or new strategies (including hedging) should be assessed to ensure that the resources required to establish sound and effective IRRBB management of the product or

activity have been identified, that the proposed activities are in line with banks' overall risk appetite, and procedures to identify, measure, monitor and control the risks of the proposed product or activity have been established.

14. There should be systems in place to ensure that positions that exceed, or are likely to exceed, limits defined by the Board should receive prompt management attention and be escalated without delay. There should be a clear policy on who will be informed, how the communication will take place and the actions which will be taken in response to such exceptions.

15. Banks must identify the IRRBB inherent in all products and activities, and ensure that IRR is subjected to well-laid out effective risk management procedures which are consistent with these guidelines. Significant hedging or risk management initiatives must be approved before being implemented. New products and activities must be analysed from the perspective of IRR before their roll out. Prior to introducing a new product, hedging or risk-taking strategy, adequate operational procedures and risk control systems must be in place. The management of banks' IRRBB should be integrated within its broader risk management framework and aligned with its business planning and budgeting activities.

Measurement

16. The extant guidelines issued by RBI are applicable to the computation of IRR for the entire bank and banks should continue to follow these guidelines. Additionally for the purpose of computing, reporting, and disclosing risks separately for IRRBB from both earnings as well as economic value perspective, banks should follow the guidelines as given in the following paragraphs:

Development of interest rate shocks and other scenarios:

17. Banks should be able to compute the IRRBB as impact on economic value and earnings, based on:

a. internally selected interest rate shock scenarios addressing the bank's risk profile, according to its Internal Capital Adequacy Assessment Process (ICAAP);

b. historical and hypothetical interest rate stress scenarios, which tend to be more severe than shock scenarios; and

c. the six prescribed interest rate shock scenarios as given in Appendix 1.

18. An indicative standardised methodology for computing IRRBB from the perspective of change in EVE is given in Appendix 2.

General requirements on stress scenarios

19. Banks should measure their vulnerability to loss under stressful market conditions – including the breakdown of key assumptions – and consider those results when establishing and reviewing their policies and limits for IRRBB. Banks should also develop and implement an effective stress testing framework for IRRBB as part of their broader risk management and governance processes. These should feed into the decision-making process at the appropriate management level, including strategic decisions (eg business and capital planning decisions) of the Board or its committee. In particular, IRRBB stress testing should be considered in the ICAAP, requiring banks to undertake rigorous, forward-looking stress testing that identifies events of severe changes in market conditions which could adversely impact the bank's capital or earnings, possibly also through changes in the behaviour of its customer base.

20. The stress testing framework for IRRBB should be commensurate with its nature, size and complexity as well as business activities and overall risk profile. The framework should include clearly defined objectives, scenarios tailored to the bank's businesses and risks, well documented assumptions and sound methodologies. The framework will be used to assess the potential impact of the scenarios on the bank's financial condition, enable ongoing and effective review processes for stress tests and recommend actions based on the stress test results. IRRBB stress tests should play an important role in the communication of risks, both within the bank and externally.

21. The identification of relevant shock and stress scenarios for IRRBB, the application of sound modelling approaches and the appropriate use of the stress testing results require the collaboration of different experts within a bank (e.g., traders, the treasury department, the finance department, the ALCO, the risk management and risk control departments and/or the bank's economists). A stress-testing programme for IRRBB should ensure that the opinions of the experts are taken into account.

22. The banks should determine, currency-wise, a range of potential interest rate movements against which they will measure their IRRBB exposures. Management should ensure that risk is measured under a reasonable range of potential interest rate scenarios, including some containing severe stress elements. In developing the

scenarios, banks should consider a variety of factors, such as the shape and level of the current term structure of interest rates and the historical and implied volatility of interest rates. In low interest rate environments, banks should also consider negative interest rate scenarios and the possibility of asymmetrical effects of negative interest rates on their assets and liabilities.

23. Banks should select scenarios that provide meaningful estimates of risk and include a range of shocks that is sufficiently wide to allow the Board to understand the risk inherent in the banks' products and activities. When developing interest rate shock and stress scenarios for IRRBB, banks should consider the nature and sources of its IRRBB exposures, the time it would need to take action to reduce or unwind unfavourable IRRBB exposures, and its capability/willingness to withstand accounting losses in order to reposition its risk profile.

24. The scenarios should be sufficiently wide-ranging to identify parallel and non-parallel gap risk, basis risk and option risk. In many cases, static interest rate shocks may be insufficient to assess IRRBB exposure adequately. Banks should ensure that the scenarios are both severe and plausible, in light of the existing level of interest rates and the interest rate cycle. Special consideration should be given to instruments or markets where concentrations exist, because those positions may be more difficult to liquidate or offset in a stressful market environment. Banks should assess the possible interaction of IRRBB with its related risks, as well as other risks (eg credit risk, liquidity risk). Banks should assess the effect of adverse changes in the spreads of new assets/liabilities replacing those assets/liabilities maturing over the horizon of the forecast on their NII.

25. Banks having positions with significant option risk should include scenarios that capture the exercise of such options. For example, banks that have products with sold caps or floors should include scenarios that assess how the risk positions would change should those caps or floors move into the money. Given that the market value of options also fluctuates with changes in the volatility of interest rates, banks should develop interest rate assumptions to measure their IRRBB exposures to changes in interest rate volatilities.

26. Banks should specify, in building their interest rate shock and stress scenarios, the term structure of interest rates that will be incorporated and the basis relationship between yield curves, rate indices etc. Banks should also estimate how interest rates that are administered or managed by the management (eg prime rates or retail

deposit rates, as opposed to those that are purely market driven) might change. Management should document how these assumptions are derived. In addition, forward-looking scenarios should incorporate changes in portfolio composition due to factors under the control of the bank (eg the bank's acquisition and production plans) as well as external factors (eg changing competitive, legal or tax environments); new products where only limited historical data are available; new market information and new emerging risks that are not necessarily covered by historical stress episodes.

27. Further, banks should perform qualitative and quantitative reverse stress tests in order to identify interest rate scenarios that could severely threaten banks' capital and earnings; and reveal vulnerabilities arising from its hedging strategies and the potential behavioural reactions of its customers.

Assumptions required for computation of IRRBB

28. Both economic value and earnings-based measures of IRRBB are significantly impacted by a number of assumptions made for the purposes of risk quantification, namely:

- expectations for the exercise of interest rate options (explicit and embedded) by both the bank and its customers under specific interest rate shock and stress scenarios;
- treatment of balances and interest flows arising from NMDs;
- treatment of own equity in economic value measures; and
- the implications of accounting practices for IRRBB.

29. When assessing its IRRBB exposures, banks should make judgments and assumptions about how an instrument's actual maturity or repricing behaviour may vary from the instrument's contractual terms because of behavioural optionalities. In this context, all modelling assumptions should be conceptually sound and reasonable, and consistent with historical experience. Banks must carefully consider how the exercise of the behavioural optionality will vary not only under the interest rate shock and stress scenario but also across other dimensions. For instance, considerations may include:

Product	Dimensions influencing the exercise of the embedded behavioural options
Fixed rate loans subject to prepayment risk prepayment risk	Loan size, loan-to-value (LTV) ratio, borrower characteristics, contractual interest rates, seasoning, geographical location, original and remaining maturity, and other historical factors. Other macroeconomic variables such as stock indices, unemployment rates, GDP, inflation and housing price indices should be considered in modelling prepayment behaviour.
Fixed rate loan commitments	Borrower characteristics, geographical location (including competitive environment and local premium

	conventions), customer relationship with bank as evidenced by cross-products, remaining maturity of the commitment, seasoning and remaining term of the mortgage
Term deposits subject to redemption risk early	Deposit size, depositor characteristics, funding channel (eg direct or brokered deposit), contractual interest rates, seasonal factors, geographical location and competitive environment, remaining maturity and other historical factors. Other macroeconomic variables such as stock indices, unemployment rates, GDP, inflation and housing price indices should be considered in modelling deposit redemption behavior.
NMDs	Responsiveness of product rates to changes in market interest rates, current level of interest rates, spread between a bank's offer rate and market rate, competition from other firms, the bank's geographical location and demographic and other relevant characteristics of its customer base.

30. In addition, banks with positions denominated in different currencies can expose themselves to IRRBB in each of those currencies. Since yield curves vary from currency to currency, banks generally need to assess exposures in each currency. Further, banks should consider the materiality of the impact of behavioural optionalities within floating rate loans. For instance, the behaviour of prepayments arising from embedded caps and floors could impact banks' economic value of equity.

31. Banks should be able to test the appropriateness of key behavioural assumptions, and all changes to the assumptions of key parameters should be documented (eg by comparing the economic value of equity measured under their internal systems with the framework and caps prescribed given in Appendix 2). Banks should periodically perform sensitivity analyses for key assumptions to monitor their impact on measured IRRBB. Sensitivity analyses should be performed with reference to both economic value and earnings-based measures.

32. The most significant assumptions underlying the system should be documented and clearly understood by the Board or its committee. Documentation should also include descriptions on how those assumptions could potentially affect bank's hedging strategies.

33. As market conditions, competitive environments and strategies change over time, banks should review significant measurement assumptions at least annually and more frequently during rapidly changing market conditions. For example, if the

competitive market has changed such that consumers now have lower transaction costs available to them for refinancing their residential mortgages, prepayments may become more sensitive to smaller reductions in interest rates.

Data and Measurement Systems for computing IRRBB

Measurement systems and data integrity

34. Accurate and timely measurement of IRRBB is necessary for effective risk management and control. Banks' risk measurement system should be able to identify and quantify the major sources of IRRBB exposure. The mix of a bank's business lines and the risk characteristics of its activities should guide management's selection of the most appropriate form of measurement system.

35. The banks should not rely on a single measure of risk, given that risk management systems tend to vary in how they capture the components of IRRBB. Instead, banks should use a variety of methodologies to quantify their IRRBB exposures under both the economic value and earnings-based measures, ranging from simple calculations based on static simulations using current holdings to more sophisticated dynamic modelling techniques that reflect potential future business activities.

36. Management Information System (MIS) in banks should be able to retrieve accurate IRRBB information in a timely manner. The MIS should also capture interest rate risk data on all of the banks' material IRRBB exposures. There should be sufficient documentation of the major data sources used in the risk measurement process. Data inputs should be automated as much as possible to reduce administrative errors. Data mapping should be periodically reviewed and tested against an approved model version. Banks should monitor the type of data extracts and set appropriate controls.

37. Wherever cash flows are slotted into different time buckets (eg for gap analyses) or assigned to different vertex points to reflect the different tenors of the interest rate curve, the slotting criteria should be stable over time to allow for a meaningful comparison of risk figures over different periods.

38. Banks' internal systems should be able to compute economic value and earnings-based measures of IRRBB, based on the interest rate shock and stress scenarios as given in Appendix 1.

39. The validation of IRRBB measurement methods and assessment of corresponding model/measurement risk should be included in a formal policy process that should be reviewed and approved by the Board or its committee. The policy should specify the management roles and designate who is responsible for the development, implementation and use of models. In addition, the model oversight responsibilities as well as policies including the development of initial and ongoing validation procedures, evaluation of results, approval, version control, exception, escalation, modification and decommission processes need to be specified and integrated within the governance processes for model risk management.

40. An effective validation framework should include three core elements:

- evaluation of conceptual/methodological soundness, including developmental evidence;
- ongoing model monitoring, including process verification and benchmarking; and
- outcomes analysis, including back-testing of key internal parameters (eg stability of deposits, prepayments, early redemptions, pricing of instruments).

41. In addressing the expected initial and ongoing validation activities, the policy should establish a hierarchical process for determining model risk soundness based on both quantitative and qualitative dimensions such as size, impact, past performance and familiarity with the modelling technique employed.

42. Model risk management for IRRBB measures should follow a holistic approach that begins with motivation, development and implementation by model owners and users. Prior to receiving authorisation for usage, the process for determining model inputs, assumptions, modelling methodologies and outputs should be reviewed and validated independently of the development of IRRBB models. The review and validation results and any recommendations on model usage should be presented to and approved by the Board or its committee. Upon approval, the model should be subject to ongoing review, process verification and validation at a frequency that is consistent with the level of model risk determined and approved within banks.

43. The ongoing validation process should establish a set of exception trigger events that obligate the model reviewers to notify the Board or its committee in a timely fashion, in order to determine corrective actions and/or restrictions on model usage. Clear version control authorisations should be designated, where appropriate, to model owners. With the passage of time and due to observations and new information gained over time, an approved model may be modified or

decommissioned. Banks should articulate policies for model transition, including change and version control authorisations and documentation.

44. IRRBB measurement method might include those developed by third-party vendors. Model inputs or assumptions may also be sourced from related modelling processes or sub-models (both in-house and vendor-sourced) and should be included in the validation process. Banks should document and explain model specification choices as part of the validation process.

45. Banks that purchase IRRBB models should ensure there is adequate documentation of their use of those models, including any specific customisation. If vendors provide input for market data, behavioural assumptions or model settings, banks should have a process in place to determine if those inputs are reasonable for its business and the risk characteristics of its activities.

46. Internal audit should review the model risk management process as part of its annual risk assessment and audit plans. The audit activity should not duplicate model risk management processes, but should review the integrity and effectiveness of the risk management system and the model risk management process. RBI will look into the systems and procedures of computation of IRRBB of banks in detail. If persistent deficiencies are observed, RBI may require banks to compute IRRBB based on ΔEVE as given in the Appendix 2 till such time all deficiencies are removed.

47. Computation of impacts on EVE and NII should be based on following for the purpose of disclosure of these values:

(i) ΔEVE

a. Banks should exclude their own equity from the computation of the exposure level.
b. Banks should include all cash flows from all interest rate-sensitive assets, liabilities and off-balance sheet items in the banking book in the computation of their exposure. Banks should disclose whether they have excluded or included commercial margins and other spread components in their cash flows.
c. Cash flows should be discounted using either a risk-free rate or a risk-free rate including commercial margins and other spread components (only if the bank has included commercial margins and other spread components in its cash flows). Banks should disclose whether they have discounted their cash flows using a risk-free rate or a risk-free rate including commercial margins and other spread components.

d. ΔEVE should be computed with the assumption of a run-off balance sheet, where existing banking book positions amortise and are not replaced by any new business.

(ii) ΔNII

a. Banks should include expected cash flows (including commercial margins and other spread components) arising from all interest rate-sensitive assets, liabilities and off-balance sheet items in the banking book.
b. ΔNII should be computed assuming a constant balance sheet, where maturing or repricing cash flows are replaced by new cash flows with identical features with regard to the amount, repricing period and spread components.
c. ΔNII should be disclosed as the difference in future interest income over a rolling 12-month period.

Reporting

48. The reporting of risk measures to the Board, it committees and other senior management committees should be regular and should compare current exposure with policy limits. In particular, reporting should include the results of the periodic model reviews and audits as well as comparisons of past forecasts or risk estimates with actual results to inform potential modelling shortcomings on a regular basis. Portfolios that may be subject to significant mark-to-market movements should be clearly identified within banks' MIS and subject to oversight in line with any other portfolios exposed to market risk.

49. While the types of reports prepared for the Board or its committee will vary based on the banks' portfolio composition, they should include at least the following:

- summaries of the bank's aggregate IRRBB exposures, and explanatory text that highlights the assets, liabilities, cash flows, and strategies that are driving the level and direction of IRRBB;
- reports demonstrating the bank's compliance with policies and limits;
- key modelling assumptions such as NMD characteristics, prepayments on fixed rate loans and currency aggregation;
- results of stress tests, including assessment of sensitivity to key assumptions and parameters; and
- summaries of the reviews of IRRBB policies, procedures and adequacy of the measurement systems, including any findings of internal and external auditors and/or other equivalent external parties (such as consultants).

50. Reports detailing the IRRBB exposures should be provided to the Board and other committees on a timely basis and reviewed regularly. The IRRBB reports should provide aggregate information as well as sufficient supporting detail to enable the Board or its committee to assess the sensitivity of the bank to changes in market conditions, with particular reference to portfolios that may potentially be subject to

significant mark-to-market movements. The Board or its appropriate committees should review the bank's IRRBB management policies and procedures in light of the reports, to ensure that they remain appropriate and sound. The Board or its appropriate committees should also ensure that analysis and risk management activities related to IRRBB are conducted by competent staff with technical knowledge and experience, consistent with the nature and scope of the bank's activities.

Disclosure:

51. Banks should disclose the measured ΔEVE and ΔNII under the prescribed interest rate shock scenarios set out in Appendix 2. Disclosure should be in the formats given in Appendix 3.

Capital for IRRBB under Pillar 2

52. Banks are responsible for evaluating the level of capital that they should hold, and for ensuring that this is sufficient to cover IRRBB and its related risks. The contribution of IRRBB to the overall internal capital assessment should be based on the banks' IMS outputs, taking account of key assumptions and risk limits. The overall level of capital should be commensurate with both the banks' actual measured level of risk (including for IRRBB) and its risk appetite, and be duly documented in its ICAAP report.

53. Banks should develop their own methodologies for capital allocation, based on their risk appetite. In determining the appropriate level of capital, banks should consider both the amount and the quality of capital needed.

54. The capital adequacy for IRBBB should be considered in relation to the risks to economic value, given that such risks are embedded in banks' assets, liabilities and off-balance sheet items. For risks to future earnings, given the possibility that future earnings may be lower than expected, banks should consider capital buffers.

Capital adequacy assessments for IRRBB should factor in:

- the size and tenor of internal limits on IRRBB exposures, and whether these limits are reached at the point of capital calculation;
- the effectiveness and expected cost of hedging open positions that are intended to take advantage of internal expectations of the future level of interest rates;
- the sensitivity of the internal measures of IRRBB to key modelling assumptions;

- the impact of shock and stress scenarios on positions priced off different interest rate indices (basis risk);
- the impact on economic value and NII of mismatched positions in different currencies;
- the impact of embedded losses;
- the distribution of capital relative to risks across legal entities that form part of a capital consolidation group, in addition to the adequacy of overall capital on a consolidated basis;
- the drivers of the underlying risk; and
- the circumstances under which the risk might crystallise.

The outcomes of the capital adequacy for IRRBB should be considered in banks' ICAAP and flow through to assessments of capital associated with business lines.

Outlier banks

55. Banks having maximum ΔEVE, under the six prescribed interest rate shock scenarios as reported under table B of Appendix 3 which is equal to or more than 15% of its Tier 1 capital will be considered to be having materially high IRRBB and RBI may under SREP of Pillar 2 ask these banks to either reduce their exposure to IRRBB or enhance their capital base.

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Appendix 1: Interest Rate Shock Scenarios

Banks should apply six prescribed interest rate shock scenarios to capture parallel and non-parallel gap risks for EVE and two prescribed interest rate shock scenarios for NII. These scenarios are applied to IRRBB exposures in each currency for which banks have material positions. In order to accommodate heterogeneous economic environments across jurisdictions, the six shock scenarios reflect currency specific absolute shocks as specified in Table 1 below. Under this approach, IRRBB is measured by means of the following six scenarios:

(i) parallel shock up;

(ii) parallel shock down;

(iii) steepener shock (short rates down and long rates up);

(iv) flattener shock (short rates up and long rates down);

(v) short rates shock up; and

(vi) short rates shock down

The interest rate shocks[1] for exposures to different currencies are as follows:

Table 1: Specified size of interest rate shocks:

	INR,ARS, AUD, BRL, IDR,MXN, RUB, TRY, ZAR	CAD, USD, SEK, SAR	CHF	CNY, GBP	EUR. HKD	JPY	KRW	SGD
Parallel	400	200	100	250	200	100	300	150
Short	500	300	150	300	250	100	400	200
Long	300	150	100	150	150	100	200	100

Given above table, the instantaneous shocks to the risk-free rate for parallel, shorts and long, for each currency, the following parameterisations of the six interest rate shock scenarios should be applied:

(i) Parallel shock for currency c: a constant parallel shock up or down across all time buckets.

$$\Delta R_{parallel,c}(t_k) = \pm\overline{R}_{parallel,c}$$

(ii) Short rate shock for currency c: shock up or down that is greatest at the shortest tenor midpoint. That shock, through the shaping scalar

[1] These shocks have been calibrated by BCBS based on date of historical time series ranging from 2000 to 2015 for various maturities. These shocks will be reviewed by RBI from time to time.

$S_{short}(t_k) = (e^{\frac{-t_k}{x}})$, where x=4, diminishes towards zero at the tenor of the longest point in the term structure[2].

$$\Delta R_{short,c}(t_k) = \pm \overline{R}_{short,c} \cdot S_{short}(t_k) = \pm \overline{R}_{short,c} \cdot e^{\frac{-t_k}{x}}$$

(iii) Long rate shock for currency c (note: this is used only in the rotational shocks): Here the shock is greatest at the longest tenor midpoint and is related to the short scaling factor as

$$S_{long}(t_k) = 1 - S_{short}(t_k)$$

$$\Delta R_{long,c}(t_k) = \pm \overline{R}_{long,c} \cdot S_{long}(t_k)\, \overline{R}_{long,c} \cdot (1 - e^{\frac{-t_k}{x}})$$

(iv) Rotation shocks for currency c: involving rotations to the term structure (i.e. steepeners and flatteners) of the interest rates whereby both the long and short rates are shocked and the shift in interest rates at each tenor midpoint is obtained by applying the following formulas to those shocks:

$$\Delta R_{steepener,c}(t_k) = -0.65 \cdot \left| \Delta R_{short,c}(t_k) \right| + 0.9 \cdot \left| \Delta R_{long,c}(t_k) \right|.$$

$$\Delta R_{flatener,c}(t_k) = +0.8 \cdot \left| \Delta R_{short,c}(t_k) \right| - 0.6 \cdot \left| \Delta R_{long,c}(t_k) \right|.$$

Examples:

Short rate shock: Assume that a bank uses the framework with K=19 time bands and with t_k=25 years (the midpoint (in time) of the longest tenor bucket K), and where t_k is the midpoint (in time) for bucket k. In the standardised framework, if k=10 with tk=3.5 years, the scalar adjustment for the short shock would be $S_{short}(t_k) = \left(e^{\frac{-3.5}{4}}\right) = 0.147$. Banks would multiply this by the value of the short rate shock to obtain the amount to be added to or subtracted from the yield curve at that tenor point. If the short rate shock was +100 bp, the increase in the yield curve at t_k =3.5 years would be 41.7 bp.

Steepener: Assume the same point on the yield curve as above, t_k =3.5 years. If the absolute value of the short rate shock was 100 bp and the absolute value of the long rate shock was 100 bp (as for the Japanese yen), the change in the yield curve at tk=3.5 years would be the sum of the effect of the short rate shock plus the effect of the long rate shock in basis points: − 0.65 · 100bp · 0.417 + 0.9 · 100bp · (1 − 0.417) = +25.4bp.

Flattener: The corresponding change in the yield curve for the shocks in the example above at t_k=3.5 years would be: + 0.8 · 100bp · 0.417 − 0.6 · 100bp · (1 − 0.417) = −1.6bp.

[2] The value of x in the denominator of the function $e^{\frac{-t_k}{x}}$ controls the rate of decay of the shock. This should be set to the value of 4 for all currencies. 44 tk is the midpoint (in time) of the kth bucket and tK is the midpoint (in time) of the last bucket K. There are 19 buckets in the indicative framework, but the analysis may be generalised to any number of buckets.

Appendix 2: Indicative methodology for computing ΔEVE

Banks have been provided with flexibility to develop their own system to compute ΔEVE. However, it is expected that banks' systems and parameters used to compute ΔEVE are not significantly different from the methodology and process provided in this appendix. Wherever, significant deviation is considered desirable by banks, a well-reasoned argument for the same should be recorded and made available to RBI when requested.

Steps involved in computation:

The steps involved in measuring banks' ΔEVE for IRRBB would generally be following:

Step 1. Interest rate-sensitive banking book positions are allocated to one of three categories (i.e. amenable, less amenable and not amenable to standardisation).

Step 2. Determination of slotting of cash flows based on repricing maturities. This is a straightforward translation for positions amenable to standardisation. For positions less amenable to standardisation, they are excluded from this step. For positions with embedded automatic interest rate options, the optionality should be ignored for the purpose of slotting of notional repricing cash flows.

For positions that are not amenable to standardisation, there is a separate treatment for:

(a) NMDs – according to separation of core and non-core cash flows via the approach as given below.

(b) Behavioural options (fixed rate loans subject to prepayment risk and term deposits subject to early redemption risk) – behavioural parameters relevant to the position type may rely on a scenario-dependent look-up table given below.

Step 3: Determination of ∆EVE for relevant interest rate shock scenarios for each currency. The ∆EVE is measured per currency for all six prescribed interest rate shock scenarios.

Step 4: Add-ons for changes in the value of automatic interest rate options (whether explicit or embedded) are added to the EVE changes. Automatic interest rate options sold are subject to full revaluation (net of automatic interest rate options bought to hedge sold interest rate options wherever permitted or possible) under each of the six prescribed interest rate shock scenarios for each currency. Changes in values of options are then added to the changes in the EVE measure under each interest rate shock scenario on a per currency basis.

Step 5. IRRBB EVE calculation. The ΔEVE under the standardised framework will be the maximum of the worst aggregated reductions to EVE across the six prescribed interest rate shocks in Appendix 1.

Cash flow bucketing

Banks may project all future notional repricing cash flows arising from interest rate-sensitive:

- assets, which are not deducted from Common Equity Tier 1 (CET1) capital and which exclude (i) fixed assets such as real estate or intangible assets and (ii) equity exposures in the banking book;
- liabilities (including all non-remunerated deposits), other than CET1 capital under the Basel III framework; and
- off-balance sheet items;

onto 19 predefined time buckets (indexed numerically by k) as given in Table below into which they fall according to their repricing dates. Alternatively, banks may use the time bucket retaining the notional repricing cash flows' maturity. This may require splitting up notional repricing cash flows between two adjacent maturity bucket midpoints.

A notional repricing cash flow CF(kk) is defined as:

- any repayment of principal (eg at contractual maturity);
- any repricing of principal; repricing is said to occur at the earliest date at which either the bank or its counterparty is entitled to unilaterally change the interest rate, or at which the rate on a floating rate instrument changes automatically in response to a change in an external benchmark; or
- any interest payment on a tranche of principal that has not yet been repaid or repriced; spread components of interest payments on a tranche of principal that has not yet been repaid and which do not reprice must be slotted until their contractual maturity irrespective of whether the non-amortised principal has been repriced or not.

The date of each repayment, repricing or interest payment is referred to as its repricing date.

Banks may deduct commercial margins and other spread components from the notional repricing cash flows, using a prudent and transparent methodology, if they consider it appropriate to do so.

Floating rate instruments are assumed to reprice fully at the first reset date. Hence, the entire principal amount is slotted into the bucket in which that date falls, with no additional slotting of notional repricing cash flows to later time buckets or time bucket midpoints (other than the spread component which is not repriced).

Table 1: for Indicative table for maturity schedule for notional repricing cash flows

Time Bucket								
Short-term rates	Overnight	Between overnight and less than or equal to one month (O/N-1 month)	1-month to 3 months	3 months-6 months	6 months to 9 months	9 months to 1 year	1 year to 1.5 years	1.5 year to 2 years
Medium-term rates	2 years to 3 years	3 years to 4 years	4 years to 5 years	5 years to 6 years	6 years to 7 years			
Long-term rates	7 years to 8 years	8 years to 9 years	9 years to 10 years	10 years to 15 years	15 years to 20 years	More than 20 years		

All notional repricing cash flows associated with interest rate-sensitive assets, liabilities and off-balance sheet items, for each currency, are allocated to the prescribed time buckets or time bucket midpoints (henceforth, denoted by $CF_{li,c}$ (k) or $CF_{li,c}$ (t_k) under interest rate shock scenario *i* and currency *c*) based on their amenability to standardisation.

Process for positions that are amenable to standardisation

Notional repricing cash flows can be slotted into appropriate time buckets or time bucket midpoints based on their contractual maturity, if subject to fixed coupons, or into the next repricing period if coupons are floating. Positions amenable to standardisation fall into two categories:

Fixed rate positions: such positions generate cash flows that are certain till the point of contractual maturity. Examples are fixed rate loans without embedded prepayment options, term deposits without redemption risk and other amortising products such as mortgage loans. All coupon cash flows and periodic or final principal repayments should be allocated to the time bucket midpoints closest to the contractual maturity.

Floating rate positions: such positions generate cash flows that are not predictable past the next repricing date other than that the present value would be reset to par. Accordingly, such instruments can be treated as a series of coupon payments until the next repricing and a par notional cash flow at the time bucket midpoint closest to the next reset date bucket.

Positions amenable to standardisation include positions with embedded automatic interest rate options where the optionality (whether sold or bought) should be ignored for the purpose of slotting of notional repricing cash flows. That is, the stripped-out embedded automatic interest rate option must be treated together with explicit automatic interest rate options.

Process for positions that are less amenable to standardisation

For explicit automatic interest rate options, as well as embedded automatic interest rate options that are separated or stripped out from assets or liabilities (ie the host contract), the methodology for automatic interest rate options is described in paragraphs below.

Process for positions not amenable to standardisation

Positions not amenable to standardisation include (i) Non Maturity Deposits (NMDs), (ii) fixed rate loans subject to prepayment risk and (iii) term deposits subject to early redemption risk.

Treatment of NMDs

Banks may first separate their NMDs according to the nature of the deposit and depositor. Banks should then identify, for each category, the core and non-core deposits, up to the limits specified in Table 2. Finally, banks should determine an appropriate cash flow slotting for each category, in accordance with the average maturity limits specified in Table 2.

(a) NMD categories

NMDs must be segmented into retail and wholesale categories. Retail deposits are defined as deposits placed by an individual person. Deposits made by small business customers and managed as retail exposures are considered as having similar interest rate risk characteristics to retail accounts and thus can be treated as retail deposits. Retail deposits should be considered as held in a transactional account when regular transactions are carried out in that account (eg when salaries are regularly credited) or when the deposit is non-interest bearing. Other retail deposits should be considered as held in a non-transactional account. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories.

(b) Separation of NMDs

Banks should distinguish between the stable and the non-stable parts of each NMD category using observed volume changes over the past 10 years. The stable NMD portion is the portion that is found to remain undrawn with a high degree of likelihood. Core deposits are the proportion of stable NMDs which are unlikely to reprice even under significant changes in the interest rate environment. The remainder constitutes non-core NMDs.

Banks are required to estimate their level of core deposits using this two-step procedure for each deposit category, and then to aggregate the results to determine the overall volume of core deposits subject to *imposed caps* as shown in Table 2.

(c) Cash flow slotting

NMDs should finally be slotted into the appropriate time bucket or time bucket midpoint. Non-core deposits should be considered as overnight deposits and accordingly should be placed into the shortest/overnight time bucket or time bucket midpoint.

Banks should determine an appropriate cash flow slotting procedure for each category of core deposits, up to the maximum average maturity per category as specified in Table 2.

Table 2. Caps on core deposits and average maturity by category

	Cap on proportion of core deposits (%)	Cap on average maturity of core deposits (years)
Retail/transactional	90	5
Retail/non-transactional	70	4.5
Wholesale	50	4

Treatment of positions with behavioural options other than NMDs

The treatment set out in this section applies only to behavioural options related to retail customers. Where a wholesale customer has a behavioural option that may change the pattern of notional repricing cash flows, such options must be included within the category of automatic interest rate options.

Framework for positions with behavioural options other than NMDs

The standardised framework is applied to fixed rate loans subject to prepayments and term deposits subject to early redemption risk. In each case, the customer has an option, which, if exercised, will alter the timing of banks' cash flows. The customer's exercise of the option is, among other factors, influenced by changes in interest rates. In the case of the fixed rate loan, the customer has an option to repay the loan early (ie prepay); and for a fixed-term deposit, the customer may have an option to withdraw their deposit before the scheduled date.

The optionality in these products is estimated using a twostep approach. Firstly, baseline estimates of loan prepayments and early withdrawal of fixed-term deposits are calculated given the prevailing term structure of interest rates. In the second stage, the baseline estimates are multiplied by scenario-dependent scalars that reflect the likely behavioural changes in the exercise of the options.

Fixed rate loans subject to prepayment risk

Prepayments, or parts thereof, for which the economic cost is not charged to the borrower, are referred to as uncompensated prepayments. For loan products where the economic cost of prepayments is never charged, or charged only for prepayments above a certain threshold, the standardised framework for fixed rate loans subject to prepayments set out below must be used to assign notional repricing cash flows.

Banks may determine the baseline conditional prepayment rate (CPR) for each portfolio p of homogeneous prepayment-exposed loan products denominated in currency c, under the prevailing term structure of interest rates. The CPR for each portfolio of homogeneous prepayment- exposed loan products denominated in currency *c,* under interest rate scenario *i*, is given as:

$$CPR_{i,c}^{p} = \min(1, \gamma_i \cdot CPR_{0,c}^{p})$$

where ($CPR_{0,c}^{p}$) is the (constant) base CPR of a portfolio of homogeneous prepayment-exposed loans given in currency *c* and given the prevailing term structure of interest rates. γ_i is a multiplier applied for scenario as given in Table 3.

Prepayment speeds vary according to the interest rate shock scenario. The multipliers γ_i reflect the expectation that prepayments will generally be higher during periods of falling interest rates and lower during periods of rising interest rates.

Table 3. CPRs under the shock scenarios

Scenario number	Interest rate shock scenarios	γ_i (scenario multiplier)
1	Parallel up	0.8
2	Parallel down	1.2
3	Steepener	0.8
4	Flattener	1.2
5	Short rate up	0.8
6	Short rate down	1.2

The prepayments on the fixed rate loans must ultimately be reflected in the relevant cash flows (scheduled payments on the loans, prepayments and interest payments). These payments can be broken up into scheduled payments adjusted for prepayment and uncompensated prepayments:

$$CF_{i,c}^{P}(k) = CF_{i,c}^{S}(k) + CPR_{i,c}^{p} \cdot N_{i,c}^{p}(k-1)$$

Where $CF_{i,c}^{S}(k)$ refers to the scheduled interest and principal repayment, and $N_{i,c}^{p}(k-1)$ denotes the notional outstanding at time bucket k – 1. The base cash flows (i.e. given the current interest rate yield curve and the base CPR) are given by *i*=0, while the interest rate shock scenarios are given for *i*=1 to 6.

Term deposits subject to early redemption risk

Term deposits lock in a fixed rate for a fixed term and would usually be hedged on that basis. However, term deposits may be subject to the risk of early withdrawal, also called early redemption risk. Consequently, term deposits may only be treated as fixed rate liabilities and their notional repricing cash flows slotted into the time buckets or time bucket midpoints up to their corresponding contractual maturity dates if it can be shown that:

- the depositor has no legal right to withdraw the deposit; or

- an early withdrawal results in a significant penalty that at least compensates for the loss of interest between the date of withdrawal and the contractual maturity date and the economic cost of breaking the contract.

If neither of these conditions is met, the depositor holds an option to withdraw and the term deposits are deemed to be subject to early redemption risk. Further, if banks issue term deposits that do not meet the above criteria to wholesale customers, they must assume that the customer will always exercise the right to withdraw in the way that is most disadvantageous to banks (ie the deposit is classified as an automatic interest rate option).

Banks may determine the baseline term deposit redemption ratio *TDRR,* applicable to each homogeneous portfolio *p* of term deposits in currency *c* and use it to slot the notional repricing cash flows. Term deposits which are expected to be redeemed early are slotted into the overnight time bucket (*k*=1) or time bucket midpoint (t_1).

The term deposit redemption ratio for time bucket *k* or time bucket midpoint t_k applicable to each homogeneous portfolio *p* of term deposits in currency *c* and under scenario *I* is obtained by multiplying $TDRR_{0,c}^{p}$ by scalar u_i that depends on the scenario *I*, as follows:

$$TDRR_{i,c}^{p} = \min(1, u_i \cdot TDRR_{0,c}^{p})$$

The values of scalar u_i are given in the following table.

Table 4. Term deposit redemption rate (TDRR) scalars under the shock scenarios

Scenario number	Interest rate shock scenarios	Scalar multipliers u_i
1	Parallel up	1.2
2	Parallel down	0.8
3	Steepener	0.8
4	Flattener	1.2
5	Short rate up	1.2
6	Short rate down	0.8

The notional repricing cash flows which are expected to be withdrawn early under any interest rate shock scenario *i* are described as:

$$CF_{i,c}^{p}(1) = TD_{0,c}^{p} \cdot TDRR_{i,c}^{p}$$

Where $TD_{0,c}^{p}$ is the outstanding amount of term deposits of type *p*.

Automatic interest rate options

This section describes the method for calculating an add-on for automatic interest rate options, whether explicit or embedded[3]. This applies to sold automatic interest rate options. Banks have a choice to either include all bought automatic options or include only automatic options used for hedging sold automatic interest rate options:

1. For each sold automatic option *o* in currency *c*, the value change, denoted $\Delta FVAO_{i,c,}$ is calculated for each interest rate shock scenario *i*. The value change is given by:

   (i) an estimate of the value of the option to the option holder, given:

   (a) a yield curve in currency c under the interest rate shock scenario ii; and

   (b) a relative increase in the implicit volatility of 25%;

   minus

   (ii) the value of the sold option to the option holder, given the yield curve in currency c at the valuation date.

2. Likewise, for each bought automatic interest rate option *q*, banks must determine the change in value of the option between interest rate shock scenario *i* and the current interest rate term structure combined with a relative increase in the implicit volatility of 25%. This is denoted as

3. Banks' total measure for automatic interest rate option risk under interest rate shock scenario *i* in currency *c* is calculated as:

$$KAO_{i,c} = \sum_{0=1}^{n_c} \Delta FVAO_{i,c}^{o} - \sum_{q=1}^{m_c} \Delta FVAO_{i,c}^{q}$$

Where n_c (m_c) is the number of sold (bought) options in currency *c*.

If the bank chooses to only include bought automatic interest rate options that are used for hedging sold automatic interest rate options, the bank must, for the remaining bought options, add any changes in market values reflected in the regulatory capital measure of the respective capital ratio (ie CET1, AT1 or total capital) to the total automatic interest rate option risk measure $KAO_{i,c}$.

[3] The most important automatic interest rate options likely to occur in the banking book are caps and floors, which are often embedded in banking products. Swaptions, such as prepayment options on non-retail products, may also be treated as automatic interest rate options, as, in cases where such options are held by sophisticated financial market counterparties, the option holder will almost certainly exercise the option if it is in their financial interest to do so. Any behavioural option positions with wholesale customers that may change the pattern of notional repricing cash flows are considered as embedded automatic interest rate options for the purposes of this subsection.

Appendix 3: Formats for disclosure of IRRBB

Table A

Purpose: To provide a description of the risk management objectives and policies concerning IRRBB.	
Scope of application: Mandatory for all banks within the scope of application set out in Section III.	
Content: Qualitative and quantitative information. Quantitative information is based on the daily or monthly average of the year or on the data as of the reporting date.	
Frequency: Annual.	
Format: Flexible.	
Qualitative disclosure	
A	A description of how the bank defines IRRBB for purposes of risk control and measurement.
B	A description of the bank's overall IRRBB management and mitigation strategies. Examples are: monitoring of EVE and NII in relation to established limits, hedging practices, conduct of stress testing, outcomes analysis, the role of independent audit, the role and practices of the ALCO, the bank's practices to ensure appropriate model validation, and timely updates in response to changing market conditions.
C	The periodicity of the calculation of the bank's IRRBB measures, and a description of the specific measures that the bank uses to gauge its sensitivity to IRRBB.
D	A description of the interest rate shock and stress scenarios that the bank uses to estimate changes in the economic value and in earnings.
E	Where significant modelling assumptions used in the bank's IMS (ie the EVE metric generated by the bank for purposes other than disclosure, eg for internal assessment of capital adequacy) are different from the modelling assumptions prescribed for the disclosure in Table B, the bank should provide a description of those assumptions and of their directional implications and explain its rationale for making those assumptions (eg historical data, published research, management judgment and analysis).
F	A high-level description of how the bank hedges its IRRBB, as well as the associated accounting treatment

G	A high-level description of key modelling and parametric assumptions used in calculating ΔEVE and ΔNII in Table B, which includes: For ΔEVE, whether commercial margins and other spread components have been included in the cash flows used in the computation and discount rate used. How the average repricing maturity of non-maturity deposits in (1) has been determined (including any unique product characteristics that affect assessment of repricing behaviour). The methodology used to estimate the prepayment rates of customer loans, and/or the early withdrawal rates for time deposits, and other significant assumptions. Any other assumptions (including for instruments with behavioural optionalities that have been excluded) that have a material impact on the disclosed ΔEVE and ΔNII in Table B, including an explanation of why these are material. Any methods of aggregation across currencies and any significant interest rate correlations between different currencies.
H	(Optional) Any other information which the bank wishes to disclose regarding its interpretation of the significance and sensitivity of the IRRBB measures disclosed and/or an explanation of any significant variations in the level of the reported IRRBB since previous disclosures.
Quantitative disclosures	
1	Average repricing maturity assigned to NMDs.
2	Longest repricing maturity assigned to NMDs.

Table B

Scope of application: Mandatory for all banks within the scope of application set out in Section III.
Content: Quantitative information.
Frequency: Annual, as at end-March..
Format: Fixed.
Accompanying narrative: Commentary on the significance of the reported values and an explanation of any material changes since the previous reporting period.

In reporting	***Δ EVE***		***Δ NII***	
Period	**T**	**T–1**	**T**	**T–1**
Parallel up				
Parallel down				
Steepener				
Flattener				
Short rate up				
Short rate down				
Maximum				
Period	**T**		**T–1**	
Tier 1 capital				

Definitions

For each of the specified interest rate shock scenarios, the bank must report for the current period and for the previous period:

- the change in the economic value of equity based on its IMS, using a run-off balance sheet and an instantaneous shock and
- the change in projected NII over a forward-looking rolling 12-month period compared with the bank's own best estimate 12-month projections, using a constant balance sheet assumption and an instantaneous shock.

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