

# Financial Risk&Regulation

## Interest rate risk in the banking book – Recalibrated Basel shocks and EBA supervisory focal points

Newsletter – April 2024



The full implementation of the October 2022 IRRBB package issued by the EBA is still to come, yet the relevant professional committees are already actively working on fine-tuning the expectations laid down in it. In December 2023, the Basel Committee issued its consultative document on the recalibration of interest rate risk shocks, with which they plan to replace the methodology introduced in 2016. Almost simultaneously, the EBA also announced that it plans to tighten the control of the management of interest rate risk in the banking book. We recommend our previously published newsletters (in [February 2024](#), [November 2022](#), and [February 2022](#)) on the topic of bank book interest rate risk.

### Recalibrated Basel shocks

#### Previous standard

In April 2016 the Basel Committee published its [standard on interest rate risk in the banking book \(IRRBB\)](#), on which the current EBA regulation is based. The Committee published [in December 2023 the consultative version](#) of the revised and modified method of calculating shocks. The recent low, near 0% interest rate environment resulted unrealistically high shock parameters – the goal was to find a new method to solve this problem.

The IRRBB standard requires banks to apply specified interest rate shocks to risk free yield curves for each currency for which the bank has material positions, and to determine the impact of these yield curve shocks on their economic value of equity (EVE) and net interest income (NII). The previous method used the historical interest data for the period between 2000 and 2015. The average interest rates were calculated for each currency using these interest rate data, and then these averages were multiplied by the global shock parameters. The global shock parameters were calculated using the average of the 99th and 1st percentiles of the six-month relative moving averages of interest rate changes.

The Committee proposed to extend the above period, in the future the shocks will be calculated using the data between January 2000 and December 2022. This extension revealed the current methodology's weakness: when the interest rates are in the near 0% interest rate environment, a small change implies large relative increase, which results in high global shock parameters. Due to same absolute change in interest rates implies different shocks depending on the basis interest rate, the Committee proposed to change the calculation methodology in addition to the data period extension.

#### The new methodology and calibration

The Committee proposed the following new methodology to calculate currency level shocks for each shock scenario. In first step generate a time series of daily interest rates ( $R_{k,c}$ ) from the year 2000 (3 January 2000) to 2022 (31 December 2022) in the time buckets  $k = 3m, 6m, 1Y, 2Y, 5Y, 7Y, 10Y, 15Y, \text{ and } 20Y$  for each currency. Then, using the time series of the interest rates levels at each tenor point  $k$  and for each currency  $c$ , a new time series of absolute rate changes is calculated for a moving time window of 6 months (125 days).

For each scenario (short, long, parallel), the time series of the average of the absolute changes should be generated: for the short scenario, the average of three months, six months, and one year tenor points; for the long scenario, the average of ten years, fifteen years, and twenty years tenor points; for the parallel scenario, all tenor points should be considered when calculating the time series of the averages.

Then, the 99.9<sup>th</sup> percentile of the time series are used, for each scenario. The floor of these shocks are 100 bp; the caps are set at 400 bp for parallel shocks, 500 bp for short-term shocks, and 300 bp for the long-term shocks. Finally, these values are rounded to the nearest multiple of 50 bps.

## Differences

The proposed methodology has three main novelties. First, the time series was extended from December 2015 to December 2022 (the start date did not change). Secondly, the global shock factors were replaced by the local shock factors, which are calculated directly from the changes of the individual yield curves, and instead of relative changes, absolute changes are used. Thirdly, the former 99<sup>th</sup> percentile value in determining the shock factor was changed to 99.9<sup>th</sup> percentile value, to maintain sufficient conservatism in the proposed recalibration.

Table 1 below shows the interest rate shock parameters calculated using the proposed new methodology, showing whether the shock sizes result in an increase, decrease or are unchanged:



	ARS	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	IDR
Parallel	400	350	400	200	150	300	250	300	200	400
Short	500	450	500	250	250	300	350	400	350	500
Long	300	300	300	200	200	300	200	250	200	300

	INR	JPY	KRW	MXN	RUB	SAR	SEK	SGD	TRY	USD	ZAR
Parallel	350	100	250	400	400	300	300	150	400	200	350
Short	450	100	350	500	500	350	400	250	500	300	500
Long	250	100	250	200	300	250	200	200	300	250	300

1. Table The recalibrated shocks for each currency, highlighting the increase (blue) and decrease (dark blue)

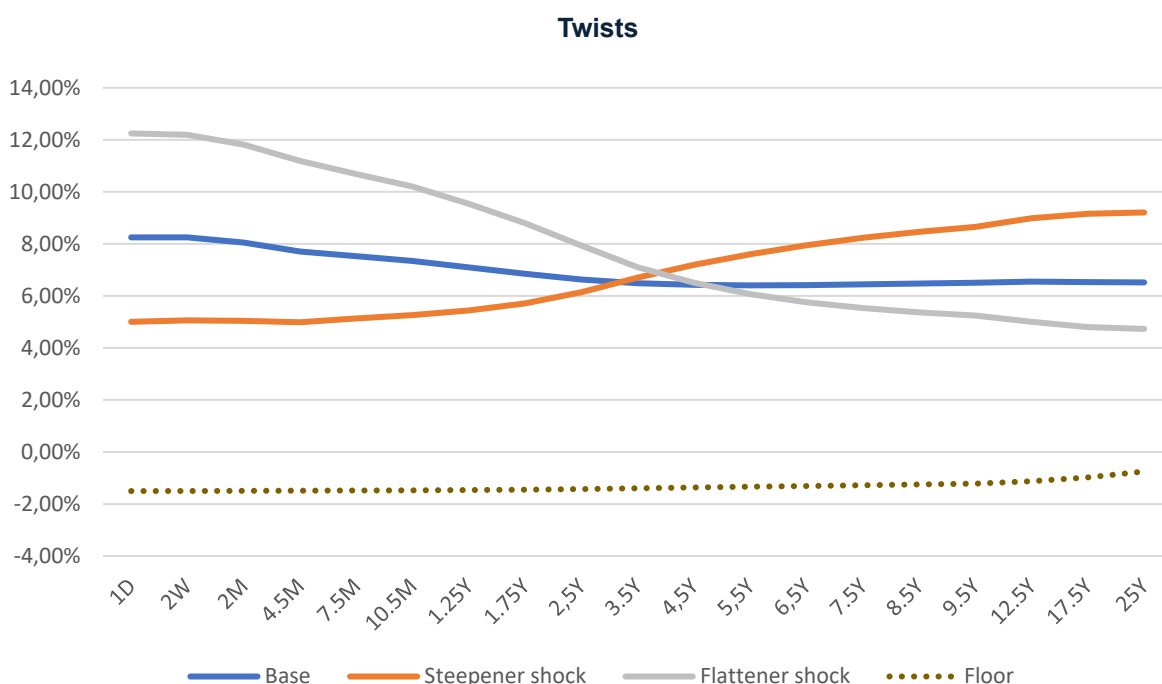
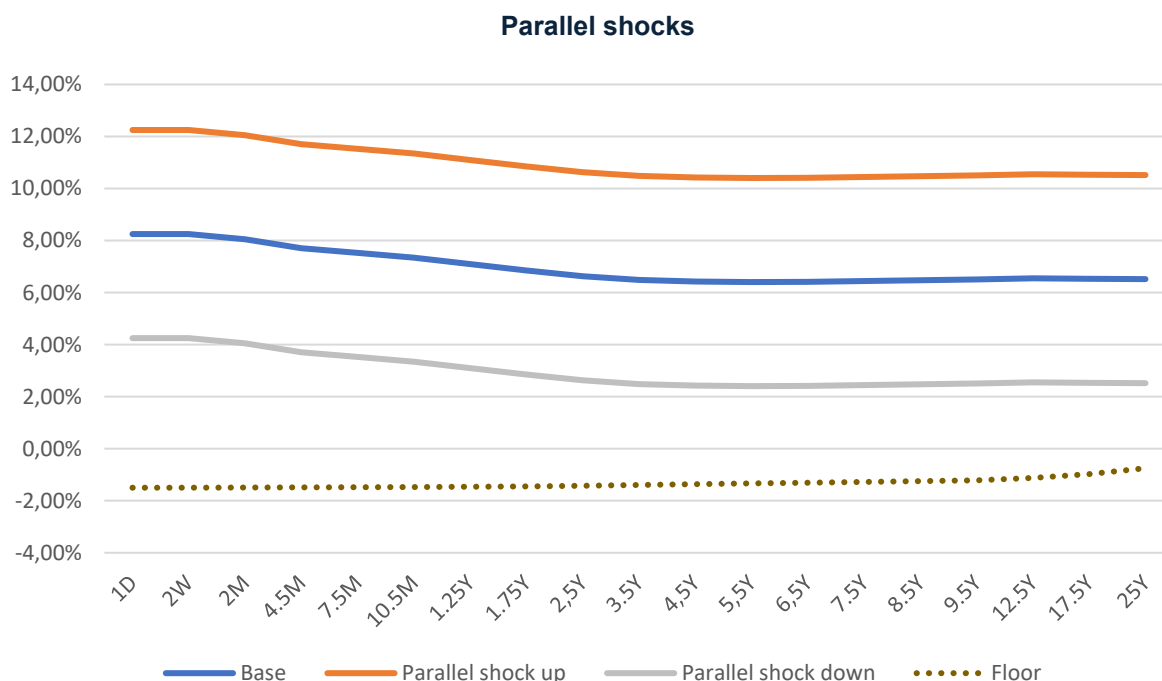
Informally, using the new methodology we calculated the HUF shock sizes, the results are in Table 2. We used the three-, six- and twelve-month BUBOR, and two-, five-, seven-, ten-, and

fifteen-year BIRS fixings, which were published by the Hungarian National Bank. Since the historic swap fixings are only available from November 15, 2006, we modified the start date, and we did

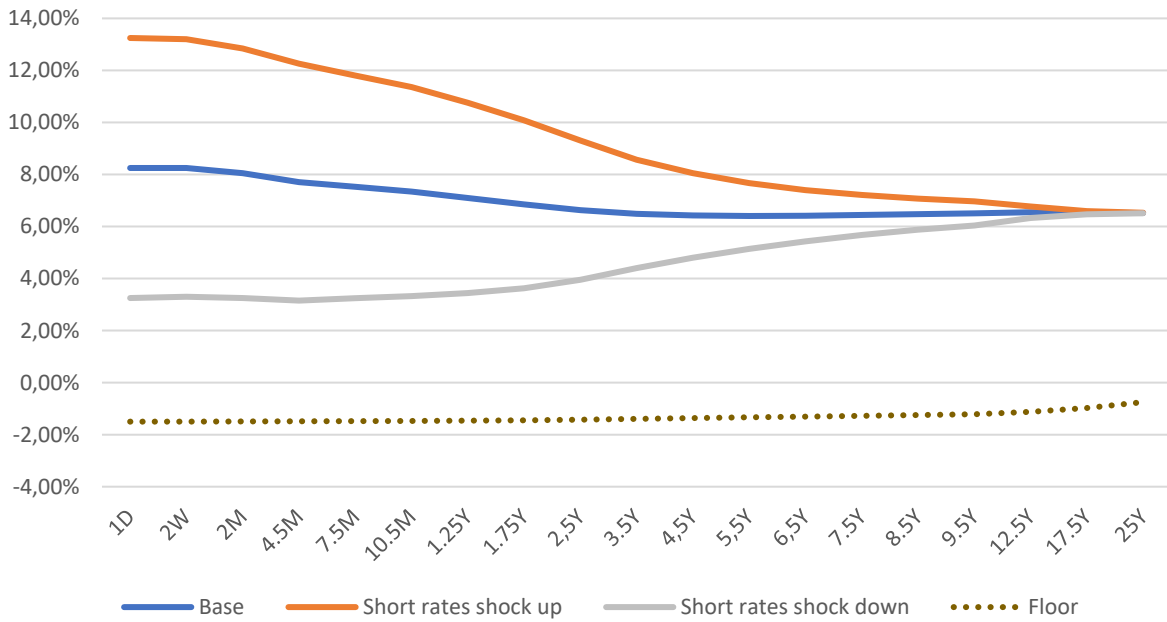
not consider the 20Y tenor, since it is only available from March 16, 2020. In all three scenarios, the cap shock parameters should be considered. The uncapped shock sizes are shown in the second column, and for comparison, the present shocks from [EBA/RTS/2022/10](#) are shown in the third column, which shows significant increase for all scenarios. The first figure shows the scenarios, and the second figure shows the interest rate changes since 2000.

	HUF	HUF – Without cap and rounding	EBA/RTS/2022/10
Parallel	400	685	300
Short	500	947	450
Long	300	432	200

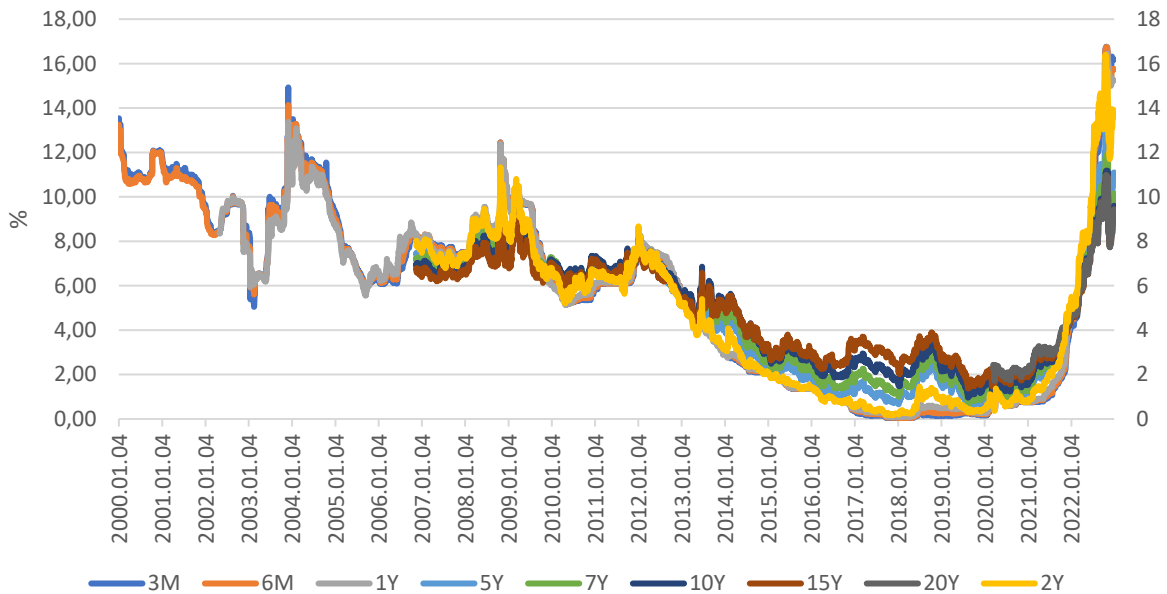
2. Table The recalibrated HUF shocks



## Short rate shocks



1. Figure The HUF interest rate scenarios with the recalibrated shocks (based on March 28, 2024 data)



2. Figure The HUF interest rates since 2000

## EBA supervisory focal points

### Short-term (Mid-2025) objectives

The European Banking Authority (EBA) announced the [IRRBB control plan](#) regarding financial institutions, considering the effects of the rising interest rates and the financial institutions' risk management abilities. The plan describes the specific details of the new regulations, generally evaluating the management of interest rate risks. Changes in modeling conditions and their impact on business models were highlighted. Figure 3 provides a visual summary of these changes.

The EBA sought to help financial institutions better understand the management of IRRBB and related challenges, including the implications for business models and changes in hedging strategies. It was important to contact regulators outside the EU, including the Basel Committee, in connection with the amendment of the IRRBB rules presented above. Based on the EBA's analysis, the number of limit breaches related to the EVE supervisory value outlier tests remained constant during 2022, however, those related to the NII increased significantly, partly due to the rise in market interest rates and because the increases were reflected

asymmetrically on the assets and liabilities side of financial institutions.

Based on the work so far, it is important to state that further investigations and measures are needed in the management and supervision of IRRBB in many areas. Proportionality aspects and ensuring effective supervision are of paramount importance, and continuous monitoring and development of these areas is essential. The EBA has committed to provide financial institutions with further guidance on the review and management of IRRBB risks, in particular in terms of modeling conditions, the application of interest rates and hedging strategies.

The EBA also sets short- and medium-term goals, which include the development of better supervisory and risk management tools. The IRRBB SOT indicators, which are key to the assessment of the financial institution's risk exposures, are further developed and supplemented with other metrics and indicators from the point of view of SREP and stress tests. Special attention is paid to the modeling of the behavior of non-maturity deposits (NMD) and the analysis of the correlations of hedging strategies.

In further research and analysis, the EBA will monitor the impact of non-core NMDs on deposit products, interest rate modeling practices, the impact on NII and EVE regulatory indicators, and the relationship of IRRBB metrics to other risks such as liquidity and ALM risks.

The EBA also indicated that the financial institutions may have misunderstood the permanent balance sheet assumptions for the NII indicator, which is defined in Article 5(d) of the RTS on SOT. The concept of permanent balance is also related to the need to reprice NMDs to prevent them from flowing into time deposits. Inadequate treatment of this exposure can lead to inappropriate net interest estimates because the calculations do not conservatively reflect the impact of upward interest rate scenarios.

The preliminary evaluation of the ITS results for Pillar 3 on the exposure of financial institutions to IRRBB highlighted that several institutions used a different (lower) shock scenario than the 200 basis point regulatory shock (from 25 bp to 50 bp or 100 bp), and different modeling assumptions were used. Also, they do not publish all information, such as the average duration of NMDs, while this information is mandatory under the ITS. This will be monitored more closely in the future.

Through consultations with financial institutions, the EBA tries to understand the practices and needs of financial institutions in order to provide

more effective guidance and support for future supervisory and risk management activities. The development and application of common procedures and methods will be key to more effective management and oversight of IRRBB risk.

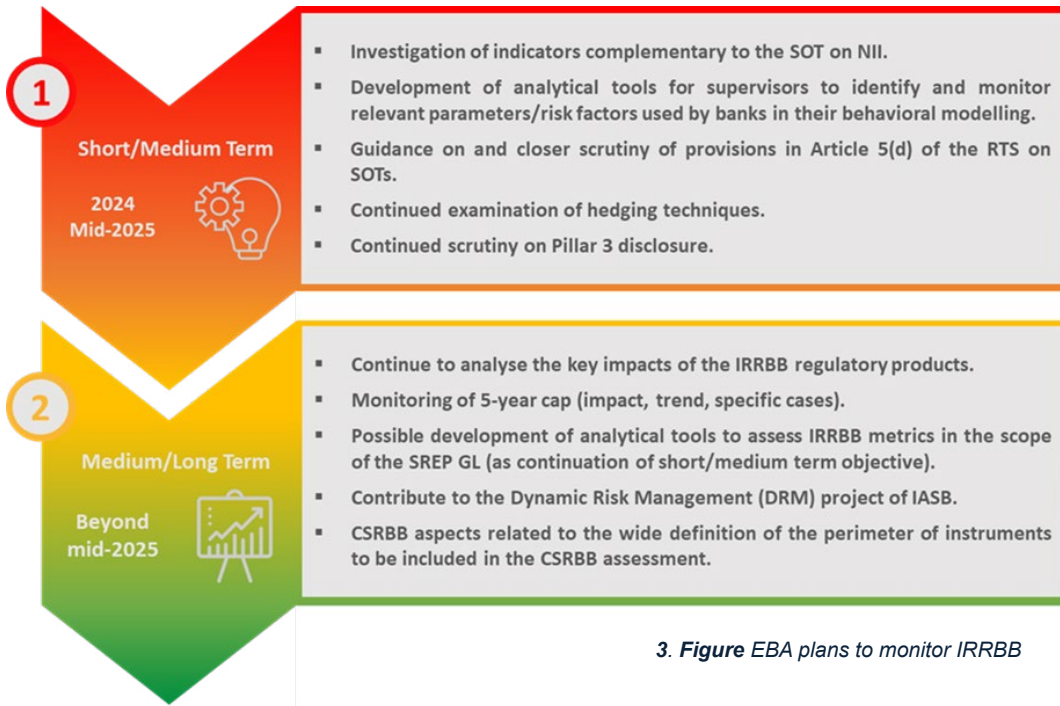
### **Long term objectives – beyond mid-2025**

The EBA plans to continuously monitor the five-year repricing maturity limit of NMDs and the related exemptions in the medium and long term. The impact of the duration limit will be investigated, so it will be necessary to consider NMDs without the duration limit during the EVE and NII calculation.

The EBA will continue to monitor aspects related to the definition of assets to be included in the evaluation of CSRBB (credit spread risk in the banking book). Based on preliminary discussions with financial institutions, CSRBB is currently treated with a rather different scope and definition. The implementation of this area is still ongoing, as the implementation date has been changed to December 2023. The EBA will monitor the exceptions to the scope of the CSRBB through the information provided by the financial institutions.

The EBA also plans to cooperate with the IASB (International Accounting Standards Board) in connection with the Dynamic Risk Management (DRM) project. The purpose of DRM is the dynamic risk management strategy and the appropriate accounting display of its application, especially in the area of interest risks.





## Conclusion

The EBA apparently plans to tighten the control of the management of bank book interest rate risk. In the short term, the NII and SOT indicators will be in focus - in the case of the former, more precise compliance with the current regulations, and in the case of the latter, new indicators are planned. In the longer term, the focus may be on more accurate modeling of demand deposits, and it may also be necessary to transform hedging strategies.

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