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Circular CSSF 24/849

Update of Circular CSSF 08/338 as amended by Circulars CSSF 16/642 and CSSF 20/762 on the implementation of a stress test in order to assess the interest rate risk arising from non-trading book activities pursuant to Article 53-7(4) of the Law of 5 April 1993 on the financial sector

Circular CSSF 24/849

Re: Update of Circular CSSF 08/338 as amended by Circulars CSSF 16/642 and CSSF 20/762 on the implementation of a stress test in order to assess the interest rate risk arising from non-trading book activities pursuant to Article 53-7(4) of the Law of 5 April 1993 on the financial sector

Luxembourg, 15 January 2024

To all credit institutions and CRR investment firms incorporated under Luxembourg law and to the Luxembourg branches of credit institutions and CRR investment firms having their registered office in a third country

Ladies and Gentlemen,

The purpose of this circular is to draw your attention to the amendments to Circular CSSF 08/338 on the implementation of stress tests in order to assess the interest rate risk arising from non-trading book activities, taking into account the changes to the national and European legislation, as well as the European Banking Authority (EBA) guidelines specifying criteria for the identification, evaluation, management and mitigation of the risks arising from potential changes in interest rates and of the assessment and monitoring of credit spread risk, of institutions' non-trading book activities (EBA/GL/2022/14)[1], as adopted by the CSSF through Circular CSSF 24/848.

Circular CSSF 08/338 is amended in accordance with the annex to this circular. The amendments to Circular CSSF 08/338 are presented in tracked changes mode for ease of reading and understanding.

The changes mainly cover:

- updates of the legal references of the supervisory outlier test on interest rate risk in the banking book (IRRBB);
- the inclusion of provisions that were previously contained in the EBA Guidelines 2018/02, in particular section 4.5 and Annex III of said guidelines;
- modifications of the principles for the calculation of the change in the economic value of equity (EVE);
- additional requirements regarding the principles for the calculation of the net interest income (NII).

The data collected by the CSSF remains unchanged compared to the previous version of the reporting template.

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[1] *These guidelines are available on the EBA's website: https://www.eba.europa.eu/regulation-and-policy/supervisory-review-and-evaluation-process-srep-and-pillar-2/guidelines-irrbb-and-csrbb*

Finally, it should be noted that the provisions of Circular CSSF 08/338 will cease to take effect when the Regulatory Technical Standards specifying supervisory shock scenarios, common modelling and parametric assumptions and what constitutes a large decline for the calculation of the economic value of equity and of the net interest income in accordance with Article 98(5a) of Directive 2013/36/EU and the Implementing Technical Standards amending Commission Implementing Regulation (EU) 2021/451 with regard to IRRBB reporting shall enter into force. This notably also includes any methodological exemptions provided to subsidiaries of groups whose parent company is located in a third country or branches having their registered office is in a third country pursuant to paragraph 7 of Circular CSSF 08/338.

Yours faithfully,

Claude WAMPACH
Director

Marco ZWICK
Director

Jean-Pierre FABER
Director

Françoise KAUTHEN
Director

Claude MARX
Director General

Annex: Circular CSSF 08/338 as amended by Circulars CSSF 16/642, CSSF 20/762 and CSSF 24/849

Circular CSSF 08/338 as amended by Circulars CSSF 16/642, ~~and~~ CSSF 20/762 and CSSF 24/849

Implementation of stress tests in order to assess the interest rate risk arising from non-trading book activities

CSSf

Commission de Surveillance
du Secteur Financier

Circular CSSF 08/338 as amended by Circulars CSSF 16/642, ~~and~~ CSSF 20/762 **and CSSF 24/849**

Luxembourg, 19 February 2008

To all credit institutions and CRR investment firms incorporated under Luxembourg law and to the Luxembourg branches of credit institutions and CRR investment firms having their registered office in a third country

Ladies and Gentlemen,

~~In accordance with Articles 25 and 30(4) of CSSF Regulation N° 15-02 (hereinafter "RCSSF 15-02") relating to the supervisory review and evaluation process that applies to CRR institutions (as defined in Article 1(1) of RCSSF 15-02 and hereinafter designated as "institutions~~Pursuant to Articles 53-7(4), 53-25 and 53-29 of the Law of 5 April 1993 on the financial sector, as amended (hereinafter "LFS")"), CRR institutions must submit their non-trading book activities to stress tests on interest rate risk.

This circular specifies the calculation and reporting methods of these stress tests on the impact in terms of both economic value of equity ("EVE") and future~~.~~ net interest income ("NII").

These methods are set out in the EBA guidelines on the management of interest rate risk arising from non-trading book activities ("interest rate risk in the banking book" or "IRRBB") of ~~19 July 2018~~20 October 2022 (EBA/GL/~~2018/02~~2022/14). They complement the provisions of Article ~~14~~53-20 of ~~RCSSF 15-02~~the LFS as regards requirements on the ~~(internal)~~ management of interest rate risk by CRR institutions.

Finally, it should be noted that the provisions of this circular shall cease to take effect when the Regulatory Technical Standards specifying supervisory shock scenarios, common modelling and parametric assumptions and what constitutes a large decline for the calculation of the economic value of equity and of the net interest income in accordance with Article 98(5a) of Directive 2013/36/EU and the Implementing Technical Standards amending Commission Implementing Regulation (EU) 2021/451 with regard to IRRBB reporting enter into force. This notably includes any methodological derogation provided to institutions that are subsidiaries of groups whose parent company is located in a third country, or that are branches having their registered office in a third country, respectively, pursuant to point 7 of this circular.

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Chapter I. Scope

1. The requirement to calculate stress tests and report the result of the regulatory stress tests on interest rate in accordance with the provisions of this circular applies to all credit institutions and CRR investment firms incorporated under Luxembourg law in accordance with Article 53-2 and Article 53-24 of the LSF, and to the Luxembourg branches of credit institutions and CRR investment firms having their registered office in a third country in accordance with Article 1(1) of CSSF Regulation N° 15-02 (hereinafter "RCSSF 15-02") relating to the supervisory review and evaluation process that applies to CRR institutions. These entities are referred to hereinafter as "institutions".

2. The stress tests shall be performed on an individual and consolidated basis in accordance with Article 53-8 of the LFS and, where applicable, Article 3 of RCSSF 15-02.

Chapter II. Concept of stress test on interest rate risk

~~1.~~ 3. "EVE" shall mean the net present value of the interest-rate-sensitive instruments - excluding perpetual equity instruments without any call dates. EVE is obtained from the aggregation of the economic value of all interest-rate-sensitive instruments (except items of perpetual equity without any call dates). The change in EVE shall be the change in the net present value of the said interest-rate-sensitive instruments over their remaining life resulting from interest rate movements in accordance with points 10 and 11, at the reference date when the concerned stress test is performed, as provided for in point 8 of this circular.

The change in ~~earnings~~ NII shall be the difference between expected ~~earnings~~NII, over the next 12 months, under a baseline scenario and expected ~~earnings~~ NII under standard shock scenarios in accordance with point ~~13~~17, at the reference date when the concerned stress test is performed, as provided for in point 8 of this circular.

~~2.~~ 4. Institutions shall perform the regulatory stress tests described hereafter in order to assess their IRRBB in terms of potential changes in EVE and future ~~earnings~~NII.

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To calculate the change in EVE, institutions shall evaluate how the discounted value of their different wealth items – in particular claims on the assets side, debts on the liability side, as well as derivative instruments and other off-balance sheet items, whatever form they take (for example claims under the form of marketable or non-marketable securities) and the manner in which they are valued from the accounting point of view (historical value principle or fair value) – is impacted by an instantaneous interest rate change. Thus, the stress tests answer the ~~hypothetical~~ question of the impact of an interest rate change on the value of the different marketable as well as non-marketable wealth items of the institution.

To calculate the change in future ~~earnings~~NII, institutions shall assess the impact of the interest rate movements on their earnings, considering not only the effects on interest income and expenses (i.e. on net interest income), but also the effects on the market value changes of exposures — depending on accounting treatment — either shown in the profit and loss account or directly in equity (e.g. via other comprehensive income). Thus, stress tests answer the ~~hypothetical~~ question of the impact of an interest rate change on the institution's income over a one-year horizon.

Chapter III. General calculation methods

~~3.~~ 5. Notwithstanding the third subparagraph of this point, the calculations to perform for regulatory stress testing shall be executed in accordance with the internal methods retained by the institutions. These methods must be robust and commensurate with the nature and volume of the institutions' wealth. Where robustness or precision of the methods implemented are not certain – concerning, for example, modelling of client behaviour–, institutions shall act with appropriate prudence.

When computing the effect of the interest rate movements on their economic value or on their future earnings, as per their internal methods, institutions should use one of the measurement methods set out in Annex I of EBA/GL/~~2018/02~~2022/14 and refer to the expectations set out in Annex II of EBA/GL/~~2018/02~~2022/14 for the application of these measures according to the proportionality principle. In accordance with the principle of proportionality, the CSSF reserves the right to require institutions to use more advanced calculation methods, incorporating more granular data and changes in client behaviour under standard shocks. Where the CSSF considers that the institutions' internal methods are not satisfactory for the purposes of the IRRBB risk assessment, the CSSF may require an institution to use the standardised method pursuant to Article 53-20(3) of the LFS.

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The stress tests on a consolidated basis may be defined either directly, based on all wealth items included in the consolidation, or indirectly, by simply adding up the individual stress test results of the legal entities included in the scope of consolidation, provided the calculations are applied consistently throughout the entities of the group.

Where the wealth items include items in foreign currencies, the conversion into the currency of the capital will be performed according to the exchange rates applicable on the date of the stress test performance.

6. The scope of the institution's wealth items, the methods, assumptions and results of the stress test calculation shall be documented and archived. The documentation, available at the institution, shall allow third party professionals to seize the nature, scope and limitations of the calculations implemented and to evaluate the results obtained. Institutions using the possibility described under point 7 shall include in their documentation the communication of the home competent authority on the standard shock applied.

7. Institutions which are subsidiaries or branches of groups whose parent company is located in a third country or branches having their registered office in a third country, and subject to a regulatory stress test requirement equivalent to the one set out in this circular, may use, for the purpose of this circular, the standard shock provided for by the home competent authority of the group or registered office, respectively. Institutions willing to use this option, shall submit an explicit request to the CSSF.

8. The minimum calculation frequency of the regulatory stress tests is quarterly. Institutions shall report the results of these tests to the CSSF on an annual basis, based on the situation of the institution as at 31 December of each year.

9. Where institutions report the Short-Term Exercise IRRBB to the European Central Bank for the same level of application and for the same period, they shall be exempted from reporting the stress tests for the same level of application and reference period pursuant to this circular. These institutions shall report the results of the stress tests only for the other levels of application that are not covered by the Short-Term Exercise IRRBB, where applicable.

Chapter IV. Specific methods for the regulatory calculation of the change in EVE

10. Institutions shall calculate the standard shocks on EVE resulting from a sudden increase and sudden decrease by 200 basis points of all interest rates (parallel shock of yield curves).

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11. Institutions shall also calculate the ~~additional~~ standard shocks that correspond to the following six interest rate shock scenarios for measuring EVE under the standard EVE outlier test:

~~11.~~ (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;

(vi) short rates shock down.

12. Institutions whose change in EVE after a sudden parallel 200 basis points shift (up or down) of the yield curve, as defined in point 10, is greater than 20% of their own funds or whose change in EVE after application of additional scenarios ~~1~~(i) to ~~6~~(vi), as defined in point 11, is greater than 15% of their Tier 1 capital shall inform their CSSF contact person by email of any ~~quarterly~~ excess, in a timely manner and document the extent, nature and reason for this excess. Without prejudice to point 9 above, institutions shall fill in the reporting table mentioned in Chapter VI, including, in the case of outliers, the relevant outlier questions.

~~12.~~ 13. For the regulatory calculation of the change in EVE, institutions shall comply with the principles set out below:

a. For the calculation of regulatory stress tests, institutions shall consider all the positions resulting from the interest rate risk sensitive instruments in the non-trading book, excluding Common Equity Tier 1 capital instruments as defined in ~~Sections 1 and 2 of~~ Chapter 2 of Part II of ~~the CRR,~~Regulation (EU) No 575/2013 ("CRR"), as well as the other perpetual own funds and without any call dates. However, the items included in the (prudential) trading book, as defined in Article 4(1), point (86) of the CRR, and of a small size (*de minimis* conditions) as described under Article 94 of the CRR, shall be included, unless the associated interest rate risk is captured in another risk measure.

b. The obligation for completeness provided for under this point requires institutions to clearly identify all the wealth items to be submitted to the regulatory stress tests. Institutions shall thus consider also the items which are not included in the balance sheet, such as guarantees and commitments as well as exposures in the form of derivative instruments, including non-linear and/or embedded derivatives, where applicable. For

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CRR investment firms, subject to financial reporting according to Circular CSSF 05/187 (supplemented by Circular CSSF 10/433), the (non-embedded) derivative instruments are those reported, in particular, under items 1 to 3 of table III.1 "Off-balance sheet".

c. Institutions shall reflect automatic and behavioural options in the calculation and adjust key behavioural modelling assumptions to the features of the different interest rate scenarios.

d. Pension obligations and pension plan assets should be included unless their interest rate risk is captured in another risk measure.

d.e. The cash flows from interest-rate-sensitive instruments should include any repayment of principal, any repricing of principal and any interest payments.

e.f. Institutions with an NPE (whose non-performing exposures) ("NPE")[1] ratio is 2% or more should include NPEs as interest-rate-sensitive instruments whose modelling should reflect expected cash flows and their timing. NPEs should be included net of provisions.

f.g. Institutions should consider instrument-specific interest rate floors.

g.h. The treatment of commercial margins and other spread components in interest payments in terms of their exclusion from or inclusion in the cash flows should be in accordance with the institutions' internal management and measurement approach for interest rate risk in the non-trading book. Institutions shall inform the CSSF if they exclude commercial margins and other spread components as defined internally by the institutions from their calculation. If commercial margins and other spread components are excluded, institutions shouldshall (i) use a transparent methodology for identifying the risk-free rate at inception of each instrument; (ii) use a methodology that is applied consistently across the institution; and (iii) ensure that the exclusion of commercial margins and other spread components from the cash flows is consistent with how the institution manages and hedges IRRBB.

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[1] Exposures classified as non-performing within the meaning of Article 47a(3) of the CRR, as amended. The ratio of non-performing exposures (non-performing debt securities and loans and advances/total gross debt securities and loans and advances) is calculated at the level of the institution.

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h.i. The change in EVE should be computed with the assumption of a run-off balance sheet where existing non-trading book positions amortise and are not replaced by any new business.

i.j. Institutions shall calculate the change in EVE at least for each currency whose assets or liabilities denominated in that currency amount to 5% or more of the total non-trading book financial assets (excluding tangible assets) or liabilities. If the sum of assets or liabilities amounting to 5% or more of the total non-trading book financial assets (excluding tangible assets) or liabilities included in the calculation is lower than 90% of total non-trading book financial assets (excluding tangible assets) or liabilities, then the other currencies representing less than 5% of the total non-trading book financial assets or liabilities must be included, until a minimum hedging of 90% of the total non-trading book financial assets (excluding tangible assets) or liabilities is reached.

j.k. Where, for a currency, standard shocks lead to negative interest rates, the rates concerned shall be limited to -100 basis points for immediate maturities. This floor shall then increase by 5 basis points per year, eventually reaching 0% for maturities of 20 years and more. However, if observed rates are lower than the current lower reference rate of -100 basis points, institutions should apply the lower observed rate.

k.l. When calculating the aggregate EVE per currency, institutions shall add together any negative exposures and any positive exposures weighted by a factor of 50% in each currency, for each interest rate shock scenario.

l.m. Institutions should apply an appropriate general 'risk-free' yield curve per currency. This curve should not include instrument-specific or entity-specific credit risk spreads or liquidity risk spreads. An example of an acceptable yield curve is the "plain vanilla" interest rate swap curve.

m.n. Institutions shall constrain the assumed behavioural repricing date for retail and non-financial wholesale clients' deposits without any specific repricing dates (non-maturity deposits) to a maximum average of five years. This five-year cap shall apply individually for each currency. Non-maturity deposits from financial institutions shall not be subject to behavioural modelling.

14. Given the specified size of the parallel, short and long instantaneous shocks to the 'risk-free' interest rate for each currency c, as defined in points 15 and 16, the following parameterisations of the six interest rate shock scenarios should be applied:

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

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

(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 $S_{short}(t_k) = e^{\frac{-t_k}{x}}$, where $x = 4$, tends to zero at the longest tenor point on the term structure[2]. t_k is the midpoint (in time) of the kth bucket and t_K is the midpoint (in time) of the last bucket K):

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

(iii) *Long rate shock for currency c:* This shock is only applied to rotational shocks. The shock is greatest at the longest tenor midpoint and is related to the short scaling factor as $S_{long}(t_k) = 1 - S_{short}(t_k)$

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

(iv) *Rotation shock for currency c*: Involving rotations to the term structure (i.e. for *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:

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

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

15. For calibrating interest rate shock sizes for currencies that are not shown in Table 1a and Table 1b of point 16[3], the following proceeding shall be applied:

Step 1: Calculation of the daily average interest rate

Collect a 16-year time series of daily 'risk-free' interest rates for each currency c for the maturities 3 months (M), 6M, 1 Year (Y), 2Y, 5Y, 7Y, 10Y, 15Y and 20Y. Then, calculate the overall average interest rate for each currency c across all observations in the time series and for all maturities. The result is a single measure per currency.

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[2] *The value of x in the denominator of the function $e^{\frac{-t_k}{x}}$ controls the rate of decay of the shock.*

[3] *The final set of interest rate shocks by currency as shown in Table 1a and Table 1b of point 16 were obtained by applying the four steps of this point 15.*

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Step 2: Applying the global shock parameters

The revised interest rate shocks by currency for the different segments of the yield curve $\Delta R_{j,c}(t_k)$ of Step 3 are obtained by multiplying the average rate calculated in Step 1 above with the corresponding alphas. The alphas to be used are:

(i)   60% for parallel shocks;
(ii)   85% for short shocks;
~~40% for long shocks;~~
(iii)

Step 3: Applying the caps and floors

The interest rate shock calibration proposed in Step 1 and Step 2 can lead to unrealistically low interest rate shocks for some currencies and to unrealistically high interest rate shocks for others. In order to alleviate these excesses, a floor of 100 bps as well as variable caps (denoted as $\Delta \bar{R}_j(t_k)$) are set at 500 bps for the short-term shock, 400 bps for the parallel shock and 300 bps for the long-term shock, respectively.

The change in the 'risk-free' interest rate for shock scenario *j* and currency *c*, at time bucket tenor midpoint t_k is defined as:

$$\left|\Delta \tilde{R}_{j,c}(t_k)\right| = \max\{100, \min\{\left|\Delta R_{j,c}(t_k)\right|, \Delta \bar{R}_j\}\}\text{ [4]}$$

where $\Delta \bar{R}_j = \{400, 500, 300\}$, for j = {parallel, short and long}, respectively. Applying the caps and floors to the shocks calculated in Step 2, and rounding to the nearest 50 bps, results in the final set of interest rate shocks by currency as shown in Table 1a and Table 1b.

Step 4: Adjustments for further currencies that are not shown in Table 1a or Table 1b

For the jurisdictions that might have experienced major economic changes within the period 2000 to 2015, the 3-step proceeding above might not be adequate for some of them. This is particularly the case if the interest rates during the first years of the 16-year reference period differ considerably from the interest rates in the more recent years.

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[4] *In the case of rotation shock scenarios, $\Delta \tilde{R}_{j,c}(t_1)$ cannot exceed 500 bps, and $\Delta \tilde{R}_{j,c}(t_1)$ cannot exceed 300 bps, whereby t_1 denotes the time bucket with the lowest maturity and t_k the time bucket with the highest maturity.*

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In these circumstances, the time series to be used to calculate the average interest rate as per Step 1 is determined as follows: If the average interest rate calculated as per Step 1 for the period 2000 to 2006 is greater than 700 bps, then data from the most recent 10 years only (i.e. 2007 to 2016), insofar as they are available, shall be used. Otherwise, the full time series of data from 2000 to 2015 shall be used.

16. Institutions shall assess the impact on EVE resulting from the six interest rate shock scenarios of point 11 by reference to the shock sizes by currency shown in Table 1a and Table 1b below as well as to the methods explained in point 14 and, where applicable, point 15.

Table 1a: Specified size of interest rate shocks $\bar{R}_{shocktype,c}$

	ARS	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	IDR	INR
Parallel	400	300	400	200	100	250	200	250	200	400	400
Short	500	450	500	300	150	300	250	300	250	500	500
Long	300	200	300	150	100	150	100	150	100	350	300

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

ARS	Argentine Peso	JPY	Japanese Yen
AUD	Australian Dollar	KRW	South Korean Won
BRL	Brazilian Real	MXN	Mexican Peso
CAD	Canadian Dollar	RUB	Russian Ruble
CHF	Swiss Franc	SAR	Saudi Riyal
CNY	Chinese Yuan	SEK	Swedish Krona
EUR	Euro	SGD	Singapore Dollar
GBP	Pound sterling	TRY	Turkish Lira
HKD	Hong Kong Dollar	USD	United States Dollar
IDR	Indonesian Rupiah	ZAR	South African Rand
INR	Indian Rupee		

Table 1b shows the results of applying Step 1 to Step 4 of point 15 on EU currencies that are not covered in Table 1a.

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Table 1b: Specified size of interest rate shocks $\bar{R}_{shocktype,c}$ for additional EU currencies

	BGN	CZK	DKK	HUF	PLN	RON
Parallel	250	200	200	300	250	350
Short	350	250	250	450	350	500
Long	150	100	150	200	150	250

BGN	Bulgarian Lev	HUF	Hungarian Forint
CZK	Czech Koruna	PLN	Poland Zloty
DKK	Danish Krone	RON	Romanian Leu

Chapter V. Specific methods for the regulatory calculation of future ~~earnings~~NII

17. Without prejudice to the requirements relating to the internal measurement methods used for the calculation of the future ~~earnings~~NII ~~and for reporting purposes~~, the calculation of future ~~earnings~~ NII provided for in this circular shall be the difference between expected ~~earnings~~NII, over the next 12 months, under a baseline scenario and expected ~~earnings~~ NII under the assumption of a ~~sudden increase and a sudden decrease by 200 basis points of all interest rates.~~parallel shock up and a parallel shock down, as defined in point 11(i) and (ii).

18. Interest income and expenses over a one-year horizon shall be considered irrespective of the maturity and the accounting treatment of interest-rate-sensitive instruments in the non-trading book.

The requirements laid down in point 13 shall also apply to the calculation of future NII, except for points (h) and (i). Future NII shall be calculated in the event of a "constant balance sheet", i.e. a balance sheet including off-balance-sheet items in which the total size and composition are maintained by replacing maturing or repricing cash flows with new cash flows that have identical features with regard to the amount, repricing period and spread components. Institutions shall include commercial margins and other spread components as defined internally by the institutions in their calculation of future NII. The margins of the new instruments shall be based on the margins of recently bought or sold products with similar characteristics. For instruments whose market prices are observable, recent market spreads should be used instead of historical market spreads.

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Chapter VI. Reporting methods

~~14.~~ 19. The regulatory stress test results to be reported to the CSSF in accordance with point 8 shall be received by the CSSF by 15 February at the latest.

~~15.~~ 20. For such transmission, institutions shall mandatorily use the electronic reporting tables of the CSSF. For credit institutions, the table to use is ESPREP-BNNNN-YYYY-MM-STT.xls~~x~~, available ~~on https://www.cssf.lu/wp-content/uploads/ESPREP-BNNNN-YYYY-MM-STT.xlsx~~at https://www.cssf.lu/wp-content/uploads/ESPREP-BNNNN-YYYY-MM-STT.xlsx and for CRR investment firms, table ESPREP-PNNNN-YYYY-MM-STT.xlsx, available ~~on https://www.cssf.lu/wp-content/uploads/ESPREP-PNNNN-YYYY-MM-STT.xlsx~~at https://www.cssf.lu/wp-content/uploads/ESPREP-PNNNN-YYYY-MM-STT.xlsx.

~~16.~~ 21. Institutions shall report, in the above tables, the section "Identification" as well as the results of the regulatory stress tests in the sheet "IRRBB measures – N version" based on their overall individual situation[5]. In addition, institutions submitted to the supervision of the CSSF on a consolidated basis are required to report, in sheet "IRRBB measures - C version", the results of the regulatory stress tests based on their consolidated situation. Institutions whose change in EVE after a sudden parallel 200 basis points shift (up or down) of the yield curve is greater than 20% of their own funds or whose change in EVE after application of additional scenarios 1 to 6 is greater than 15% of their Tier 1 capital shall also report section "IRRBB outlier questions - N" if the limit was exceeded on their individual situation and section "IRRBB outlier questions - C" on their consolidated situation. This section might also be reported upon specific request by the CSSF.

~~17.~~ 22. The instructions for the information to be provided in files ESPREP-BNNNN-YYYY-MM-STT.xls~~x~~ and ESPREP-PNNNN-YYYY-MM-STT.xls~~x~~ are included in the document "Reporting instructions on interest rate risk in the banking book pursuant to Circular CSSF 08/338 as amended", available at https://www.cssf.lu/wp-content/uploads/Reporting-instructions-on-IRRBB-pursuant-to-circular-CSSF08-338-as-amended.docx.

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[5] *For institutions having no branch, the individual global situation, including branches, obviously corresponds to the individual situation only. This situation shall be indicated in sheet "IRRBB measures - N version".*

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~~18~~. 23. For credit institutions, the duly completed reporting table shall be titled ESPREP-BNNNN-YYYY-MM-STT.xls<u>x</u>, where the sequence "NNNN" shall be replaced by the 4-digit identification number of the institution and the sequence "YYYY-MM" shall be used by replacing "YYYY" with the four digits of the year and "MM" with the two digits referring to the month of the performance of the stress tests. Thus, for the credit institution with identification number 999 and transmitting the result of the stress tests based on its situation as at 31 December ~~2020~~2023, the reporting table shall thus be titled ESPREP-B0999-~~2020~~2023-12-STT.xls<u>x</u>. The table shall then be encrypted and transmitted to the CSSF through the appropriate transmission channel.

~~19.~~ 24. For CRR investment firms, the table ESPREP-PNNNN-YYYY-MM-STT.xls<u>x</u>, duly completed, shall be encrypted and sent to the CSSF through the transmission channel provided for that purpose.

~~**Chapter VII. Repealing, amending, transitional and enforcement provisions**~~

~~20. By way of derogation from point 14, for the first reporting on the financial situation as at 31 December 2020, the reporting deadline has been set at 15 March 2021.~~

Yours faithfully,

Claude WAMPACH
Director

Marco ZWICK
Director

Jean-Pierre FABER
Director

Françoise KAUTHEN
Director

Claude MARX
Director general

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Circular CSSF
08/338 as
amended by
Circulars CSSF
16/642, and
CSSF 20/762 and
CSSF 24/849

Implementation of stress
tests in order to assess
the interest rate risk
arising from non-trading
book activities

Circular CSSF 08/338 as amended by Circulars CSSF 16/642, ~~and~~ CSSF 20/762 and CSSF 24/849

Luxembourg, 19 February 2008

To all credit institutions and CRR investment firms incorporated under Luxembourg law and to the Luxembourg branches of credit institutions and CRR investment firms having their registered office in a third country

Ladies and Gentlemen,

~~In accordance with Articles 25 and 30(4) of CSSF Regulation N° 15-02 (hereinafter "RCSSF 15-02") relating to the supervisory review and evaluation process that applies to CRR institutions (as defined in Article 1(1) of RCSSF 15-02 and hereinafter designated as "institutions~~Pursuant to Articles 53-7(4), 53-25 and 53-29 of the Law of 5 April 1993 on the financial sector, as amended (hereinafter "LFS")"), CRR institutions must submit their non-trading book activities to stress tests on interest rate risk.

This circular specifies the calculation and reporting methods of these stress tests on the impact in terms of both economic value of equity ("EVE") and future~~.~~ net interest income ("NII").

These methods are set out in the EBA guidelines on the management of interest rate risk arising from non-trading book activities ("interest rate risk in the banking book" or "IRRBB") of ~~19 July 2018~~20 October 2022 (EBA/GL/~~2018/02~~2022/14). They complement the provisions of Article ~~14~~53-20 of ~~RCSSF 15-02~~the LFS as regards requirements on the ~~(internal)~~ management of interest rate risk by CRR institutions.

Finally, it should be noted that the provisions of this circular shall cease to take effect when the Regulatory Technical Standards specifying supervisory shock scenarios, common modelling and parametric assumptions and what constitutes a large decline for the calculation of the economic value of equity and of the net interest income in accordance with Article 98(5a) of Directive 2013/36/EU and the Implementing Technical Standards amending Commission Implementing Regulation (EU) 2021/451 with regard to IRRBB reporting enter into force. This notably includes any methodological derogation provided to institutions that are subsidiaries of groups whose parent company is located in a third country, or that are branches having their registered office in a third country, respectively, pursuant to point 7 of this circular.

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Chapter I. Scope

1. The requirement to calculate stress tests and report the result of the regulatory stress tests on interest rate in accordance with the provisions of this circular applies to all credit institutions and CRR investment firms incorporated under Luxembourg law in accordance with Article 53-2 and Article 53-24 of the LSF, and to the Luxembourg branches of credit institutions and CRR investment firms having their registered office in a third country in accordance with Article 1(1) of CSSF Regulation N° 15-02 (hereinafter "RCSSF 15-02") relating to the supervisory review and evaluation process that applies to CRR institutions. These entities are referred to hereinafter as "institutions".

2. The stress tests shall be performed on an individual and consolidated basis in accordance with Article 53-8 of the LFS and, where applicable, Article 3 of RCSSF 15-02.

Chapter II. Concept of stress test on interest rate risk

~~1.~~ 3. "EVE" shall mean the net present value of the interest-rate-sensitive instruments - excluding perpetual equity instruments without any call dates. EVE is obtained from the aggregation of the economic value of all interest-rate-sensitive instruments (except items of perpetual equity without any call dates). The change in EVE shall be the change in the net present value of the said interest-rate-sensitive instruments over their remaining life resulting from interest rate movements in accordance with points 10 and 11, at the reference date when the concerned stress test is performed, as provided for in point 8 of this circular.

The change in ~~earnings~~ NII shall be the difference between expected ~~earnings~~NII, over the next 12 months, under a baseline scenario and expected ~~earnings~~ NII under standard shock scenarios in accordance with point ~~13~~17, at the reference date when the concerned stress test is performed, as provided for in point 8 of this circular.

~~2.~~ 4. Institutions shall perform the regulatory stress tests described hereafter in order to assess their IRRBB in terms of potential changes in EVE and future ~~earnings~~NII.

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To calculate the change in EVE, institutions shall evaluate how the discounted value of their different wealth items – in particular claims on the assets side, debts on the liability side, as well as derivative instruments and other off-balance sheet items, whatever form they take (for example claims under the form of marketable or non-marketable securities) and the manner in which they are valued from the accounting point of view (historical value principle or fair value) – is impacted by an instantaneous interest rate change. Thus, the stress tests answer the ~~hypothetical~~ question of the impact of an interest rate change on the value of the different marketable as well as non-marketable wealth items of the institution.

To calculate the change in future ~~earnings~~NII, institutions shall assess the impact of the interest rate movements on their earnings, considering not only the effects on interest income and expenses (i.e. on net interest income), but also the effects on the market value changes of exposures — depending on accounting treatment — either shown in the profit and loss account or directly in equity (e.g. via other comprehensive income). Thus, stress tests answer the ~~hypothetical~~ question of the impact of an interest rate change on the institution's income over a one-year horizon.

Chapter III. General calculation methods

~~3.~~ 5. Notwithstanding the third subparagraph of this point, the calculations to perform for regulatory stress testing shall be executed in accordance with the internal methods retained by the institutions. These methods must be robust and commensurate with the nature and volume of the institutions' wealth. Where robustness or precision of the methods implemented are not certain – concerning, for example, modelling of client behaviour–, institutions shall act with appropriate prudence.

When computing the effect of the interest rate movements on their economic value or on their future earnings, as per their internal methods, institutions should use one of the measurement methods set out in Annex I of EBA/GL/~~2018/02~~2022/14 and refer to the expectations set out in Annex II of EBA/GL/~~2018/02~~2022/14 for the application of these measures according to the proportionality principle. In accordance with the principle of proportionality, the CSSF reserves the right to require institutions to use more advanced calculation methods, incorporating more granular data and changes in client behaviour under standard shocks. Where the CSSF considers that the institutions' internal methods are not satisfactory for the purposes of the IRRBB risk assessment, the CSSF may require an institution to use the standardised method pursuant to Article 53-20(3) of the LFS.

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The stress tests on a consolidated basis may be defined either directly, based on all wealth items included in the consolidation, or indirectly, by simply adding up the individual stress test results of the legal entities included in the scope of consolidation, provided the calculations are applied consistently throughout the entities of the group.

Where the wealth items include items in foreign currencies, the conversion into the currency of the capital will be performed according to the exchange rates applicable on the date of the stress test performance.

6. The scope of the institution's wealth items, the methods, assumptions and results of the stress test calculation shall be documented and archived. The documentation, available at the institution, shall allow third party professionals to seize the nature, scope and limitations of the calculations implemented and to evaluate the results obtained. Institutions using the possibility described under point 7 shall include in their documentation the communication of the home competent authority on the standard shock applied.

7. Institutions which are subsidiaries or branches of groups whose parent company is located in a third country or branches having their registered office in a third country, and subject to a regulatory stress test requirement equivalent to the one set out in this circular, may use, for the purpose of this circular, the standard shock provided for by the home competent authority of the group or registered office, respectively. Institutions willing to use this option, shall submit an explicit request to the CSSF.

8. The minimum calculation frequency of the regulatory stress tests is quarterly. Institutions shall report the results of these tests to the CSSF on an annual basis, based on the situation of the institution as at 31 December of each year.

9. Where institutions report the Short-Term Exercise IRRBB to the European Central Bank for the same level of application and for the same period, they shall be exempted from reporting the stress tests for the same level of application and reference period pursuant to this circular. These institutions shall report the results of the stress tests only for the other levels of application that are not covered by the Short-Term Exercise IRRBB, where applicable.

Chapter IV. Specific methods for the regulatory calculation of the change in EVE

10. Institutions shall calculate the standard shocks on EVE resulting from a sudden increase and sudden decrease by 200 basis points of all interest rates (parallel shock of yield curves).

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11. Institutions shall also calculate the ~~additional~~ standard shocks that correspond to the following six interest rate shock scenarios for measuring EVE under the standard EVE outlier test:

~~11.~~ (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;

(vi) short rates shock down.

12. Institutions whose change in EVE after a sudden parallel 200 basis points shift (up or down) of the yield curve, as defined in point 10, is greater than 20% of their own funds or whose change in EVE after application of additional scenarios ~~1~~(i) to ~~6~~(vi), as defined in point 11, is greater than 15% of their Tier 1 capital shall inform their CSSF contact person by email of any ~~quarterly~~ excess, in a timely manner and document the extent, nature and reason for this excess. Without prejudice to point 9 above, institutions shall fill in the reporting table mentioned in Chapter VI, including, in the case of outliers, the relevant outlier questions.

~~12.~~ 13. For the regulatory calculation of the change in EVE, institutions shall comply with the principles set out below:

a. For the calculation of regulatory stress tests, institutions shall consider all the positions resulting from the interest rate risk sensitive instruments in the non-trading book, excluding Common Equity Tier 1 capital instruments as defined in ~~Sections 1 and 2 of~~ Chapter 2 of Part II of ~~the CRR,~~Regulation (EU) No 575/2013 ("CRR"), as well as the other perpetual own funds and without any call dates. However, the items included in the (prudential) trading book, as defined in Article 4(1), point (86) of the CRR, and of a small size (*de minimis* conditions) as described under Article 94 of the CRR, shall be included, unless the associated interest rate risk is captured in another risk measure.

b. The obligation for completeness provided for under this point requires institutions to clearly identify all the wealth items to be submitted to the regulatory stress tests. Institutions shall thus consider also the items which are not included in the balance sheet, such as guarantees and commitments as well as exposures in the form of derivative instruments, including non-linear and/or embedded derivatives, where applicable. For

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CRR investment firms, subject to financial reporting according to Circular CSSF 05/187 (supplemented by Circular CSSF 10/433), the (non-embedded) derivative instruments are those reported, in particular, under items 1 to 3 of table III.1 "Off-balance sheet".

c. Institutions shall reflect automatic and behavioural options in the calculation and adjust key behavioural modelling assumptions to the features of the different interest rate scenarios.

d. Pension obligations and pension plan assets should be included unless their interest rate risk is captured in another risk measure.

d.e. The cash flows from interest-rate-sensitive instruments should include any repayment of principal, any repricing of principal and any interest payments.

e.f. Institutions with an NPE (whose non-performing exposures) ("NPE")[1] ratio is 2% or more should include NPEs as interest-rate-sensitive instruments whose modelling should reflect expected cash flows and their timing. NPEs should be included net of provisions.

f.g. Institutions should consider instrument-specific interest rate floors.

g.h. The treatment of commercial margins and other spread components in interest payments in terms of their exclusion from or inclusion in the cash flows should be in accordance with the institutions' internal management and measurement approach for interest rate risk in the non-trading book. Institutions shall inform the CSSF if they exclude commercial margins and other spread components as defined internally by the institutions from their calculation. If commercial margins and other spread components are excluded, institutions shouldshall (i) use a transparent methodology for identifying the risk-free rate at inception of each instrument; (ii) use a methodology that is applied consistently across the institution; and (iii) ensure that the exclusion of commercial margins and other spread components from the cash flows is consistent with how the institution manages and hedges IRRBB.

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[1] *Exposures classified as non-performing within the meaning of Article 47a(3) of the CRR, as amended. The ratio of non-performing exposures (non-performing debt securities and loans and advances/total gross debt securities and loans and advances) is calculated at the level of the institution.*

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h.i. The change in EVE should be computed with the assumption of a run-off balance sheet where existing non-trading book positions amortise and are not replaced by any new business.

i.j. Institutions shall calculate the change in EVE at least for each currency whose assets or liabilities denominated in that currency amount to 5% or more of the total non-trading book financial assets (excluding tangible assets) or liabilities. If the sum of assets or liabilities amounting to 5% or more of the total non-trading book financial assets (excluding tangible assets) or liabilities included in the calculation is lower than 90% of total non-trading book financial assets (excluding tangible assets) or liabilities, then the other currencies representing less than 5% of the total non-trading book financial assets or liabilities must be included, until a minimum hedging of 90% of the total non-trading book financial assets (excluding tangible assets) or liabilities is reached.

j.k. Where, for a currency, standard shocks lead to negative interest rates, the rates concerned shall be limited to -100 basis points for immediate maturities. This floor shall then increase by 5 basis points per year, eventually reaching 0% for maturities of 20 years and more. However, if observed rates are lower than the current lower reference rate of -100 basis points, institutions should apply the lower observed rate.

k.l. When calculating the aggregate EVE per currency, institutions shall add together any negative exposures and any positive exposures weighted by a factor of 50% in each currency, for each interest rate shock scenario.

l.m. Institutions should apply an appropriate general 'risk-free' yield curve per currency. This curve should not include instrument-specific or entity-specific credit risk spreads or liquidity risk spreads. An example of an acceptable yield curve is the "plain vanilla" interest rate swap curve.

m.n. Institutions shall constrain the assumed behavioural repricing date for retail and non-financial wholesale clients' deposits without any specific repricing dates (non-maturity deposits) to a maximum average of five years. This five-year cap shall apply individually for each currency. Non-maturity deposits from financial institutions shall not be subject to behavioural modelling.

14. Given the specified size of the parallel, short and long instantaneous shocks to the 'risk-free' interest rate for each currency c, as defined in points 15 and 16, the following parameterisations of the six interest rate shock scenarios should be applied:

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

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

(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 $S_{short}(t_k) = e^{\frac{-t_k}{x}}$, where $x = 4$, tends to zero at the longest tenor point on the term structure[2]. t_k is the midpoint (in time) of the kth bucket and t_K is the midpoint (in time) of the last bucket K):

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

(iii) *Long rate shock for currency c:* This shock is only applied to rotational shocks. The shock is greatest at the longest tenor midpoint and is related to the short scaling factor as $S_{long}(t_k) = 1 - S_{short}(t_k)$

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

(iv) *Rotation shock for currency c*: Involving rotations to the term structure (i.e. for *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:

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

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

15. For calibrating interest rate shock sizes for currencies that are not shown in Table 1a and Table 1b of point 16[3], the following proceeding shall be applied:

Step 1: Calculation of the daily average interest rate

Collect a 16-year time series of daily 'risk-free' interest rates for each currency c for the maturities 3 months (M), 6M, 1 Year (Y), 2Y, 5Y, 7Y, 10Y, 15Y and 20Y. Then, calculate the overall average interest rate for each currency c across all observations in the time series and for all maturities. The result is a single measure per currency.

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[2] *The value of x in the denominator of the function $e^{\frac{-t_k}{x}}$ controls the rate of decay of the shock.*

[3] *The final set of interest rate shocks by currency as shown in Table 1a and Table 1b of point 16 were obtained by applying the four steps of this point 15.*

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Step 2: Applying the global shock parameters

The revised interest rate shocks by currency for the different segments of the yield curve $\Delta R_{j,c}(t_k)$ of Step 3 are obtained by multiplying the average rate calculated in Step 1 above with the corresponding alphas. The alphas to be used are:

(i)   60% for parallel shocks;
(ii)   85% for short shocks;
~~40% for long shocks;~~
(iii)

Step 3: Applying the caps and floors

The interest rate shock calibration proposed in Step 1 and Step 2 can lead to unrealistically low interest rate shocks for some currencies and to unrealistically high interest rate shocks for others. In order to alleviate these excesses, a floor of 100 bps as well as variable caps (denoted as $\Delta \bar{R}_j(t_k)$) are set at 500 bps for the short-term shock, 400 bps for the parallel shock and 300 bps for the long-term shock, respectively.

The change in the 'risk-free' interest rate for shock scenario *j* and currency *c*, at time bucket tenor midpoint t_k is defined as:

$$\left|\Delta \tilde{R}_{j,c}(t_k)\right| = \max\{100, \min\{\left|\Delta R_{j,c}(t_k)\right|, \Delta \bar{R}_j\}\}\,[4]$$

where $\Delta \bar{R}_j = \{400,500,300\}$, for j = {parallel, short and long}, respectively. Applying the caps and floors to the shocks calculated in Step 2, and rounding to the nearest 50 bps, results in the final set of interest rate shocks by currency as shown in Table 1a and Table 1b.

Step 4: Adjustments for further currencies that are not shown in Table 1a or Table 1b

For the jurisdictions that might have experienced major economic changes within the period 2000 to 2015, the 3-step proceeding above might not be adequate for some of them. This is particularly the case if the interest rates during the first years of the 16-year reference period differ considerably from the interest rates in the more recent years.

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[4] *In the case of rotation shock scenarios, $\Delta \tilde{R}_{j,c}(t_1)$ cannot exceed 500 bps, and $\Delta \tilde{R}_{j,c}(t_1)$ cannot exceed 300 bps, whereby t_1 denotes the time bucket with the lowest maturity and t_k the time bucket with the highest maturity.*

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In these circumstances, the time series to be used to calculate the average interest rate as per Step 1 is determined as follows: If the average interest rate calculated as per Step 1 for the period 2000 to 2006 is greater than 700 bps, then data from the most recent 10 years only (i.e. 2007 to 2016), insofar as they are available, shall be used. Otherwise, the full time series of data from 2000 to 2015 shall be used.

16. Institutions shall assess the impact on EVE resulting from the six interest rate shock scenarios of point 11 by reference to the shock sizes by currency shown in Table 1a and Table 1b below as well as to the methods explained in point 14 and, where applicable, point 15.

Table 1a: Specified size of interest rate shocks $\bar{R}_{shocktype,c}$

	ARS	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	IDR	INR
Parallel	400	300	400	200	100	250	200	250	200	400	400
Short	500	450	500	300	150	300	250	300	250	500	500
Long	300	200	300	150	100	150	100	150	100	350	300

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

ARS	Argentine Peso	JPY	Japanese Yen
AUD	Australian Dollar	KRW	South Korean Won
BRL	Brazilian Real	MXN	Mexican Peso
CAD	Canadian Dollar	RUB	Russian Ruble
CHF	Swiss Franc	SAR	Saudi Riyal
CNY	Chinese Yuan	SEK	Swedish Krona
EUR	Euro	SGD	Singapore Dollar
GBP	Pound sterling	TRY	Turkish Lira
HKD	Hong Kong Dollar	USD	United States Dollar
IDR	Indonesian Rupiah	ZAR	South African Rand
INR	Indian Rupee		

Table 1b shows the results of applying Step 1 to Step 4 of point 15 on EU currencies that are not covered in Table 1a.

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Table 1b: Specified size of interest rate shocks $\bar{R}_{shocktype,c}$ for additional EU currencies

	BGN	CZK	DKK	HUF	PLN	RON
Parallel	250	200	200	300	250	350
Short	350	250	250	450	350	500
Long	150	100	150	200	150	250

BGN	Bulgarian Lev	HUF	Hungarian Forint
CZK	Czech Koruna	PLN	Poland Zloty
DKK	Danish Krone	RON	Romanian Leu

Chapter V. Specific methods for the regulatory calculation of future ~~earnings~~NII

17. Without prejudice to the requirements relating to the internal measurement methods used for the calculation of the future ~~earnings~~NII ~~and for reporting purposes~~, the calculation of future ~~earnings~~ NII provided for in this circular shall be the difference between expected ~~earnings~~NII, over the next 12 months, under a baseline scenario and expected ~~earnings~~ NII under the assumption of a ~~sudden increase and a sudden decrease by 200 basis points of all interest rates.~~parallel shock up and a parallel shock down, as defined in point 11(i) and (ii).

18. Interest income and expenses over a one-year horizon shall be considered irrespective of the maturity and the accounting treatment of interest-rate-sensitive instruments in the non-trading book.

The requirements laid down in point 13 shall also apply to the calculation of future NII, except for points (h) and (i). Future NII shall be calculated in the event of a "constant balance sheet", i.e. a balance sheet including off-balance-sheet items in which the total size and composition are maintained by replacing maturing or repricing cash flows with new cash flows that have identical features with regard to the amount, repricing period and spread components. Institutions shall include commercial margins and other spread components as defined internally by the institutions in their calculation of future NII. The margins of the new instruments shall be based on the margins of recently bought or sold products with similar characteristics. For instruments whose market prices are observable, recent market spreads should be used instead of historical market spreads.

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Chapter VI. Reporting methods

~~14.~~ 19. The regulatory stress test results to be reported to the CSSF in accordance with point 8 shall be received by the CSSF by 15 February at the latest.

~~15.~~ 20. For such transmission, institutions shall mandatorily use the electronic reporting tables of the CSSF. For credit institutions, the table to use is ESPREP-BNNNN-YYYY-MM-STT.xls~~x~~, available ~~on https://www.cssf.lu/wp-content/uploads/ESPREP-BNNNN-YYYY-MM-STT.xlsx~~at https://www.cssf.lu/wp-content/uploads/ESPREP-BNNNN-YYYY-MM-STT.xlsx and for CRR investment firms, table ESPREP-PNNNN-YYYY-MM-STT.xlsx, available ~~on https://www.cssf.lu/wp-content/uploads/ESPREP-PNNNN-YYYY-MM-STT.xlsx~~at https://www.cssf.lu/wp-content/uploads/ESPREP-PNNNN-YYYY-MM-STT.xlsx.

~~16.~~ 21. Institutions shall report, in the above tables, the section "Identification" as well as the results of the regulatory stress tests in the sheet "IRRBB measures – N version" based on their overall individual situation[5]. In addition, institutions submitted to the supervision of the CSSF on a consolidated basis are required to report, in sheet "IRRBB measures - C version", the results of the regulatory stress tests based on their consolidated situation. Institutions whose change in EVE after a sudden parallel 200 basis points shift (up or down) of the yield curve is greater than 20% of their own funds or whose change in EVE after application of additional scenarios 1 to 6 is greater than 15% of their Tier 1 capital shall also report section "IRRBB outlier questions - N" if the limit was exceeded on their individual situation and section "IRRBB outlier questions - C" on their consolidated situation. This section might also be reported upon specific request by the CSSF.

~~17.~~ 22. The instructions for the information to be provided in files ESPREP-BNNNN-YYYY-MM-STT.xls~~x~~ and ESPREP-PNNNN-YYYY-MM-STT.xls~~x~~ are included in the document "Reporting instructions on interest rate risk in the banking book pursuant to Circular CSSF 08/338 as amended", available at https://www.cssf.lu/wp-content/uploads/Reporting-instructions-on-IRRBB-pursuant-to-circular-CSSF08-338-as-amended.pdf.

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[5] *For institutions having no branch, the individual global situation, including branches, obviously corresponds to the individual situation only. This situation shall be indicated in sheet "IRRBB measures - N version".*

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18. 23. For credit institutions, the duly completed reporting table shall be titled ESPREP-BNNNN-YYYY-MM-STT.xlsx, where the sequence "NNNN" shall be replaced by the 4-digit identification number of the institution and the sequence "YYYY-MM" shall be used by replacing "YYYY" with the four digits of the year and "MM" with the two digits referring to the month of the performance of the stress tests. Thus, for the credit institution with identification number 999 and transmitting the result of the stress tests based on its situation as at 31 December 20202023, the reporting table shall thus be titled ESPREP-B0999-20202023-12-STT.xlsx. The table shall then be encrypted and transmitted to the CSSF through the appropriate transmission channel.

19. 24. For CRR investment firms, the table ESPREP-PNNNN-YYYY-MM-STT.xlsx, duly completed, shall be encrypted and sent to the CSSF through the transmission channel provided for that purpose.

Chapter VII. Repealing, amending, transitional and enforcement provisions

20. By way of derogation from point 14, for the first reporting on the financial situation as at 31 December 2020, the reporting deadline has been set at 15 March 2021.

Yours faithfully,

Claude WAMPACH
Director

Marco ZWICK
Director

Jean-Pierre FABER
Director

Françoise KAUTHEN
Director

Claude MARX
Director General

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