Commission de Surveillance du Secteur Financier

In case of discrepancies between the French and the English text, the French text shall prevail

Luxembourg, 19 February 2008

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

CIRCULAR CSSF 08/338 as amended by Circulars CSSF 16/642 and CSSF 20/762

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

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"), 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 earnings.

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 (EBA/GL/2018/02). They complement the provisions of Article 14 of RCSSF 15-02 as regards requirements on the (internal) management of interest rate risk by CRR institutions.

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, and to the Luxembourg branches of credit institutions and investment firms having their registered office in a third country in accordance with Article 1(1) of RCSSF 15-02. 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 3 of RCSSF 15-02.

Chapter II. Concept of stress test on interest rate risk

3. “EVE” shall mean the net present value of the interest-rate-sensitive instruments - excluding equity. EVE is obtained from the aggregation of the economic value of all interest-rate-sensitive instruments (except equity items). 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 point 10, at the reference date when the concerned stress test is performed, as provided for in point 8 of this circular.

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

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.

   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, 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

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 and refer to the expectations set out in Annex II of EBA/GL/2018/02 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.

   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 head is located 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 head. 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. Institutions reporting the "Short-Term Exercise IRRBB" to the European Central Bank for the same period and the same scope are exempted from the stress tests for the same scope and reference period.

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

10. The standard shocks to apply on EVE are a sudden increase and a sudden decrease of 200 basis points of all interest rates (parallel shift of the yield curve) as well as the additional standard shocks corresponding to scenarios 1 to 6 set out in Annex III of EBA/GL/2018/02.

11. 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 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.

12. 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 interest rate risk sensitive instruments in the non-trading book, excluding Tier 1 capital instruments as defined in Sections 1 and 2 of Chapter 2 of Part II of the 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.

    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 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 and adjust key behavioural modelling assumptions to the features of the different interest rate scenarios.

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

    e. Institutions with an NPE (non-performing exposures) ratio[1] of 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. Institutions should consider instrument-specific interest rate floors.

[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.

g. 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. If commercial margins and other spread components are excluded, institutions should (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; (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.

h. 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. 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. 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. 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. 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. 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.

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

13. Without prejudice to the requirements relating to the internal measurement methods used for the calculation of the future earnings and for reporting purposes, the calculation of future earnings provided for in this circular shall be the difference between expected earnings, over the next 12 months, under a baseline scenario and expected earnings under the assumption of a sudden increase and a sudden decrease by 200 basis points of all interest rates.

Chapter VI. Reporting methods

14. 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. 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.xlsx, available on 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.

16. 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[2]. 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. The instructions for the information to be provided in files ESPREP-BNNNN-YYYY-MM-STT.xlsx and ESPREP-PNNNN-YYYY-MM-STT.xlsx 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.

18. 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

[2] 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".

as at 31 December 2020, the reporting table shall thus be titled ESPREP-B0999-2020-12-STT.xlsx. The table shall then be encrypted and transmitted to the CSSF through the appropriate transmission channel.

19. 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 sincerely,

COMMISSION DE SURVEILLANCE DU SECTEUR FINANCIER

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Director

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