



# BANCO CENTRAL DO BRASIL

CIRCULAR 3635, OF MARCH 4, 2013

Establishes the proceedings to calculate the component of risk-weighted assets (RWA) relative to exposures subject to the variation in foreign currency coupon rate, for which the capital requirement is calculated using the standardised approach ( $RWA_{JUR2}$ ), as instituted by Resolution 4,193 of March 1, 2013.

The Board of Directors of the Central Bank of Brazil, in a special meeting held on March 1, 2013, based on the provisions of Arts. 9, 10, item IX, and 11, item VII, of Law 4,595 of December 31, 1964, and in arts. 3, paragraph 2, and 15 of Resolution 4,193 of March 1, 2013,

## DECIDED:

Art. 1. The calculation of the daily value of risk-weighted assets (RWA) component relative to the exposures subject to a variation in foreign currency coupon rate for which capital requirement is calculated using the standardised approach ( $RWA_{JUR2}$ ), as instituted by Resolution 4,193 of March 1, 2013, is based on the following formula:

$$RWA_{JUR2} = \frac{M^{ext}}{F} \cdot \left[ \sum_{k=1}^{m_1} \left( \left| \sum_{i=1}^{11} EL_i \right| + \sum_{i=1}^{11} |DV_i| + \sum_{j=1}^3 |DHZ_j| + DHE \right)_k \right], \text{ where:}$$

I - F = factor set forth in art. 4 of Resolution 4,193, of 2013;

II -  $M^{ext}$  = multiplier by exposure subject to variation in foreign currency coupon rate to be published by the Central Bank of Brazil;

III -  $m_1$  = number of foreign currencies wherein there is exposure subject to variation in foreign currency coupon rate;

IV -  $EL_i$  = net exposure in vertex "i" and in the foreign currency "k";

V -  $DV_i$  = vertical disallowance in vertex "i" and in the foreign currency "k";

VI -  $DHZ_j$  = horizontal disallowance in the foreign currency "k" within the maturity zone "j"; and

VII - DHE = horizontal disallowance in the foreign currency "k" between the maturity zones.

Sole paragraph. The calculation referred to in the heading applies to trading book positions, in accordance with Resolution 3,464 of June 26, 2007, including derivatives, and



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subject to variation in foreign currency coupon rates, defined as the prefixed interest rates of the instruments referenced on foreign currency “k” or denominated in the foreign currency “k”.

Art. 2. To calculate the daily value of  $RWA_{JUR2}$ , each position is defined as the cash flow corresponding to the net result of the value of asset positions less the value of liability positions maturing on the same day, referred to the set of open operations on the immediately preceding business day.

Paragraph 1. Cash flows shall be obtained by decomposing each open operation in an equivalent time structure of receipts and payments, considering the contracted maturity dates.

Paragraph 2. The number of cash flows will correspond to the number of maturities in which the net results calculated according to this article are different from zero.

Paragraph 3. The values of assets and liabilities of the cash flow must include principal, interest and other amounts related to each operation.

Paragraph 4. The values of the assets and liabilities of the cash flow must be marked to market by means of a term structure of interest rates which represents the prevailing rates in the market on the immediately preceding business day.

Paragraph 5. Operations without a defined maturity or with a maturity that depends on the application of specific contractual clauses must have their corresponding cash flows obtained in accordance with consistent criteria that can be verified by the Central Bank of Brazil.

Paragraph 6. For the purpose of obtaining cash flows, derivatives must be included in the calculation and the following criteria regarding operations with options referenced in foreign currencies coupon rate must be observed:

I – the value of each position shall be obtained by multiplying the number of contracts by their size and by the value of the change in the price of option relative to a change in the price of the underlying asset (delta); and

II – the cash flows relative to each operation must be obtained separately, and their outcome must be included in the cash flow of the contract maturity date.

Paragraph 7. An exemption applies to cash flows arising from credit derivatives used as hedge to market value adjustment of derivatives as a result of change in the counterparty credit quality (CVA).

Paragraph 8. The values of positions held as a result of acquisitions of shares of investment funds must consider the proportional composition of the funds' portfolios or, if not feasible, they must be treated as a position in a foreign currency coupon, assigned to vertex  $P_{11}$  defined on art. 3 of this Circular.



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Art. 3. Cash flows must be grouped in the following vertices ( $P_i$ ), according to the number of business days remaining until the date of their maturity ( $T_i$ ):

- I –  $P_1$ , corresponding to one business day;
- II –  $P_2$ , corresponding to 21 business days;
- III –  $P_3$ , corresponding to 42 business days;
- IV –  $P_4$ , corresponding to 63 business days;
- V –  $P_5$ , corresponding to 126 business days;
- VI –  $P_6$ , corresponding to 252 business days;
- VII –  $P_7$ , corresponding to 504 business days;
- VIII –  $P_8$ , corresponding to 756 business days;
- IX –  $P_9$ , corresponding to 1,008 business days;
- X –  $P_{10}$ , corresponding to 1,260 business days; and
- XI –  $P_{11}$ , corresponding to 2,520 business days.

Paragraph 1. Cash flows with a maturity corresponding to  $P_i$  must be allocated to the corresponding vertices  $P_i$ .

Paragraph 2. Cash flows with a maturity above 2,520 business days must be allocated to vertex  $P_{11}$ , in a proportion corresponding to  $T_i / 2,520$  of their marked-to-market value.

Paragraph 3 Cash flows with a maturity ranging from one business day to 2,520 business day must be allocated to the previous ( $P_i$ ) and subsequent ( $P_j$ ) vertices, according to the following criteria:

I – the ratio  $(P_j - T_i) / (P_j - P_i)$  of the marked-to-market value of the cash flow must be allocated in the vertex  $P_i$ ; and

II - the ratio  $(T_i - P_i) / (P_j - P_i)$  of the marked-to-market value of the cash flow must be allocated in the vertex  $P_j$ .

Art. 4. Exposure in the foreign currency “k”, in the vertex  $P_i$ , is defined by the allocation of each position in such currency, either long or short, on such vertex, as defined on art. 3 of this Circular, weighted by the following  $Y_i$  factors:

- I - for positions in vertex  $P_1$ ,  $Y_i$  equals 0% (zero per cent);
- II - for positions in vertex  $P_2$ ,  $Y_2$  equals 0.50% (fifty hundredths percent);



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III - for positions in vertex  $P_3$ ,  $Y_3$  equals 0.70% (seventy hundredths percent);

IV - for positions in vertex  $P_4$ ,  $Y_4$  equals 0.80% (eighty hundredths percent);

V - for positions in vertex  $P_5$ ,  $Y_5$  equals 1.20% (one point twenty percent);

VI - for positions in vertex  $P_6$ ,  $Y_6$  equals 2% (two percent);

VII - for positions in vertex  $P_7$ ,  $Y_7$  equals 4% (four percent);

VIII - for positions in vertex  $P_8$ ,  $Y_8$  equals 6% (six percent);

IX - for positions in vertex  $P_9$ ,  $Y_9$  equals 8% (eight percent);

X - for positions in vertex  $P_{10}$ ,  $Y_{10}$  equals 10% (ten percent); and

XI - for positions in vertex  $P_{11}$ ,  $Y_{11}$  equals 18% (eighteen percent).

Art. 5. The vertices mentioned in art. 3 of this Circular are grouped into three maturities zones, each one associated with one  $W_j$  factor:

I - Zone 1 corresponds to vertices  $P_1$  to  $P_5$ , with a  $W_1$  equal to 40% (forty percent);

II - Zone 2 corresponds to vertices  $P_6$  to  $P_8$ , with a  $W_2$  equal to 30% (thirty percent); and

III - Zone 3 corresponds to vertices  $P_9$  to  $P_{11}$ , with a  $W_3$  equal to 30% (thirty percent).

Art. 6. Each long or short exposure in the foreign currency "k", in each vertex  $P_i$ , must be weighted by its respective  $Y_i$  factor, resulting in the weighted exposure.

Sole paragraph. The value of the net exposure  $EL_i$  is calculated considering the net value of the sum of weighted exposures in each vertex  $P_i$ , for each foreign currency "k".

Art. 7. The value of the vertical disallowance  $DV_i$  corresponds to 10% (ten percent) of the smaller value between the absolute value of the sum of the weighted long exposures and the absolute value of the sum of the weighted short exposures in each vertex  $P_i$ , for each foreign currency "k".

Art. 8. The value of the horizontal disallowance within the maturity zone  $DHZ_j$  corresponds to the smaller value between the sum of positive  $EL_i$  and the sum of the absolute values of negative  $EL_i$  of each vertex  $P_i$  belonging to zone "j", multiplied by factor  $W_j$ , for each foreign currency "k".

Art. 9. The value of the horizontal disallowance between the maturity zones DHE corresponds to the sum of the following values:



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I - 40% (forty per cent) of the smaller absolute value between the total exposures of Zone 1 and Zone 2, in case they have opposite total exposures;

II - 40% (forty per cent) of the smaller absolute value between the total exposures of Zone 2 and Zone 3, in case they have opposite total exposures; and

III - 100% (one hundred per cent) of the smaller absolute value between total exposures of Zone 1 and Zone 3, in case they have opposite total exposures.

Art. 10. The value of the total exposures of zone “j” mentioned in art. 9 corresponds to the sum of the net exposures  $EL_i$  of each vertex  $P_i$  belonging to zone “j”, for each foreign currency “k”.

Art. 11. In calculating  $RWA_{JUR2}$ , exposures subject to changes in United States Dollar, Euro, Swiss Franc, Yen and United Kingdom Pound coupon rates must be calculated separately.

Paragraph 1. Exposures subject to changes in coupons rates of foreign currencies not mentioned in the heading may be calculated jointly – as if they were subject to changes in the coupon rate of a single foreign currency.

Paragraph 2. Exposures subject to changes in coupons rates of the foreign currencies mentioned in the heading whose value does not exceed 5% (five percent) of the total of the exposures subject to changes in foreign currency coupon rate may receive the treatment mentioned on Paragraph 1.

Art. 12. The methodology used to obtain the rates used for marking to market the exposures subject to changes in foreign currency coupon rate must be based on consistent and verifiable criteria, in accordance with rules in force.

Paragraph 1. Exposures resulting from operations with securities denominated in foreign currencies must be calculated in Brazilian reais, by converting their respective values using the sale exchange rates available in the application PTAX800, option 5, of the Information System of the Central Bank (Sisbacen), relative to the day immediately before the date of the calculation.

Paragraph 2. Operations in which the institution acts exclusively as a mediator and does not assume any rights or obligations with parties do not constitute the base for calculating  $RWA_{JUR2}$ .

Paragraph 3. The consolidated calculation of  $RWA_{JUR2}$  is imputed to the institution in the conglomerate in charge of forwarding accounting information to the Central Bank of Brazil.

Art. 13. A report detailing the calculation of  $RWA_{JUR2}$  must be forwarded to the Central Bank of Brazil, in accordance with the form to be established.



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Sole paragraph. Institutions must keep available to the Central Bank of Brazil for five years the data used to calculate the daily value of  $RWA_{JUR2}$ , as well as the methodology used to calculate the market value of the involved transactions.

Art. 14. This Circular enters into force on October 1, 2013.

Art. 15. As of October 1, 2013, the Circular 3,362 of September 12, 2007 shall be revoked.

Sole paragraph. Citations to Circular 3,362 of 2007 must be replaced with a reference to this Circular.

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Financial System Regulation Director