

Just in Time

Final Draft RTS

FX Risk or Commodity Risk in Non-Trading Book Positions under FRTB

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At a Glance



01	<u>Overview</u>	3
02	<u>Valuation of Non-Trading Book Positions</u>	5
03	<u>HPL and APL for Banking Book Positions</u>	11
04	<u>Further Details and Clarifications</u>	14

01

Overview



Overview

CRR2 implements in EU legislation the revised requirements to compute own funds requirements for market risk. In accordance with that Regulation, institutions are required to calculate own funds requirements for market risk for:

- Positions held in the **trading book**;
- Positions held in the **banking book** (i.e., non-trading book) bearing foreign exchange (FX) or commodity risk.

Article 325(9) specifies how institutions should calculate the **own funds requirements** for **non-trading book** positions that are subject to **FX risk or commodity risk** in accordance with the alternative standardized approach (**SA**) and the alternative internal model approach (**IMA**).

Articles 325bf(4) and **325bg(9)** specify how institutions have to calculate the changes in hypothetical profit and loss (**HPL**), actual profit and loss (**APL**) and risk theoretical profit and loss (**RTPL**) for the purpose of back-testing and P&L attribution requirements.

02

Valuation of Non-Trading Book Positions

Article 325(9) - *FX and Commodity Risks*



Standardised Approach (SA)

Institutions could choose to use the **accounting value or fair value** of banking book positions as a basis for calculating the relevant risk measures that are needed to obtain the own funds requirements for market risk.

Institutions are required to **update the FX component** of a non-trading book position on **at least a monthly basis**.

Internal Model Approach (IMA)

The last available value (**accounting or fair value**) should be **updated daily** to reflect changes in the **FX risk factors** and considered as the basis for computing risk measures.

Risk factors that do not reflect FX risk or commodity risk **cannot** be shocked when calculating the expected shortfall measure or the stress scenario risk measure.

The EBA expects the **risk management** of the FX risk stemming from banking book positions to be performed **consistently** using the value that is chosen for computing the **own funds requirements**.

Institution must be able to identify the FX component in the chosen value, explicitly express the pricing function used with respect to the relevant exchange rate, and accordingly calculate, risk measures.

FX Risk 2/4

Practical Examples

The **fair value** of a loan on the given date was 110\$, while the FX rate EUR/USD = 0.9. In accordance with Article 325r(5), the delta sens computation is:

$$V(FX) = 110 * FX = 110 * 0.9 = 99 \text{ €}$$

$$\Delta = \frac{V(FX * 1.01) - V(FX)}{0.01} =$$

$$= \frac{110 * 0.9 * 1.01 - 110 * 0.9}{0.01} = 99 \text{ €}$$

The day after the valuation, the loan itself is **not fully fair valued** while the FX rate has changed to EUR/USD 0.8. Institution should keep fair value from previous date, then:

$$V(FX) = 110 * FX = 110 * 0.8 = 88 \text{ €}$$

$$\Delta = 88 \text{ €}$$

The **accounting value** was last calculated on 30 June 2020 and its value is expressed in the risk-measurement model as a function of three risk factors.

Suppose that **only the first is an FX risk factor**:

$$V(X_1, X_2, X_3)$$

If the institution was to calculate some risk measures on 10 July 2020, then:

$$V_{basis}(t_2) = V(X_1(t_2), X_2(t_1), X_3(t_1))$$

$$V_{shocked}(t_2) = V(X_1(t_2) + shock, X_2(t_1), X_3(t_1))$$

where $t_1 = 30 \text{ June } 2020$ and $t_2 = 10 \text{ July } 2020$.

FX Risk 3/4

Non-Monetary Items at Historical Cost

NM items can be identified as those meeting all the following conditions:

01. Items that are **not fair valued**;
02. Items whose **accounting value is not updated at each reporting date** to reflect changes in the exchange rate between a foreign currency and the reporting currency of the institution;
03. Items that may be **impaired due to FX risk**.

In case of indication of an **impairment** (due to a sharp move in the FX rate and/or other circumstances) the carrying amount of an asset is the lower between its carrying amount, before considering possible impairment losses (using the FX rate on the date of the transaction), and its recoverable amount (using the FX rate on the reporting date). Thus, in certain instances a movement in the FX rate may also lead to **FX-related losses** with respect to non-monetary items that are booked at historical cost.

FX Risk 4/4

Non-Monetary Items at Historical Cost

Standardised Approach (SA)

Given a non-monetary item at historical cost, where the institution is applying the requirements in the CRR on a solo basis, it is required to:

1. Identify the **foreign currency** for which depreciation against the reporting currency would lead to the **highest impairment** of the item;
2. Treat that item as **linearly dependent** on the FX rate (i.e., delta-1 product).

Internal Model Approach (IMA)

Where institutions opt to capitalize the FX risk stemming from non-monetary items at historical cost using the IMA, they should do so by **modelling the risk** that such items would be **impaired** due to changes in the **relevant exchange rates**.

The permission of the competent authority is required in order to capitalize the mentioned risk of NM items at historical cost using the IMA.

To ease the application of the framework at consolidated level, a specific provision related to point 1 of the SA requirements has been included in the RTS by EBA:

Where the non-monetary item held at historical cost stems from a **subsidiary**, and the reporting currency of the subsidiary is different from the reporting currency of the parent bank, the non-monetary item must be treated as denominated in the **currency of the subsidiary**.

Commodity Risk

Standardised Approach (SA)

With respect to the valuation of banking book instruments that are subject to commodity risk, the draft RTS propose that institutions should take the **last available fair value** as a basis for computing the own funds requirements for market risk.

Institutions are required to fair value those positions on **at least a monthly basis**.

Internal Model Approach (IMA)

Institutions are required to **fair value** those positions and use the fair value as a basis for computing the own funds requirements. Moreover, institutions using the IMA are required to perform this full revaluation **on a daily basis**.

In relation to these instruments, institutions are required to shock **only** risk factors related to **commodity risk** when computing the expected shortfall measure or the stress scenario risk measure.

Positions that are subject to **both** FX and commodity risks are to be treated as positions subject to **commodity risk** for their valuation, since the requirements described for such risk are stricter than the ones for FX risk only but maintain coherence with them.

03

HPL and APL for Banking Book Positions

Articles 325bf(9) and 325bg(4) - FX and Commodity Risks



FX Risk Only

Institutions must calculate the HPL and APL related to non-trading book positions reflecting **only changes in the FX** components.

If at time t the institution is fully revaluing its banking book positions, when calculating the APL and HPL as $V_{t-1} - V_t$ for the purpose of back-testing VaR_{t-1} , the value of the portfolio in t , V_t , must be calculated ignoring that at time t a full revaluation of the banking book positions has been performed. Accordingly, when calculating V_t , the institution should take the last available value of the banking book positions (before time t) as a basis and update the FX component with the FX rate at time t .

It may be **operationally challenging** to capture only the changes in the FX components when computing the HPL and APL, so:

For non-trading book positions, the value of which does **not** change **linearly** with changes in the relevant exchange rate, the institution may calculate the HPL and APL by reflecting the **changes in all the components** determining the value of the non-trading book positions.

Where the institution decides to use such possibility, it should do so **for all non-trading book positions** included in the trading desk, the value of which is non-linear in the FX component.

Commodity Risk

Considering that positions in derivatives on commodities in the non-trading book are expected to be non-material:

01. Institutions are **not** required to **isolate the commodity risk component** when computing the actual and hypothetical changes;

02. The **possibility** of reflecting in the APL and HPL **only the commodity risk component** (and the FX risk component where the position is subject to both risks) is kept to ensure that institutions can obtain the actual and hypothetical changes solely based on risks that are captured in the risk-measurement model.

The requirements set out in this slide are **applicable to any position subject to commodity risk**, also to those positions subject to commodity and FX risks.

04

Further Details and Clarifications



Further Details and Clarifications

Unless otherwise specified, **all requirements** included in the reviewed RTS on back-testing and profit and loss attribution requirements **also hold** for non-trading book positions.

1

The framework set out for institutions using the **IMA** to capitalize the FX risk stemming from non-trading book positions is **in line** with the framework for institutions using the **SA**.

The **main difference** relates to the **frequency of updating** of the foreign exchange risk component, which has been set to daily in the IMA and monthly in the SA (same holds for commodity risk).

2

Whenever a desk is in the IMA scope, **regardless of whether its positions are actually capitalised using the IMA**, the institution needs to update the value of a non-trading book position in the desk **on a daily basis**.

Indeed, to meet the back-testing and P&L attribution requirements in the following quarter, the institution needs the time series of APL, HPL and RTPL over the past 250 business days.

3

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