

Interest Rate Derivative Clearing Mechanism (OTC)

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INTRODUCTION

This document presents the overall mechanism of clearing PLN and EUR OTC interest rate derivatives and the key business assumptions.

1 DESCRIPTION OF THE SERVICE

As an authorised clearing house under EMIR, KDPW_CCP offers a clearing service of PLN and EUR single-currency interest rate derivatives.

The clearing service covers:

- OIS based on POLONIA/EONIA/ESTR (O/N index);
- FRA, IRS and Basis Swap based on WIBOR/EURIBOR (1M, 3M and 6M index).

In the clearing service, KDPW_CCP determines credits and debits in respect of:

- variable margin or settlement amount;
- PAI/PAA,
- coupon interest payments;
- settlement adjustment;
- additional payments (fee);
- margins;
- OTC default fund contributions.

Payments for PLN instruments are processed in KDPW_CCP's account with NBP's Payment System Department (DSP). Payments for EUR instruments are processed in KDPW_CCP's account with Target2.

2 BUSINESS ASSUMPTIONS

The section below presents the key business assumptions of the model.

1. Required margins and OTC default fund contributions are determined only in PLN irrespective of the clearing currency of derivatives.
2. Required margins at the close of business and required OTC default fund contributions are paid only on business days according to the PLN OTC calendar.

3. Variation margins, settlement amounts, interest (coupons), settlement adjustments, PAI/PAA, additional payments (fee) are paid in the currency of the derivatives on business days according to the PLN or EUR OTC calendar.
4. Transactions in derivatives cleared in a given currency submitted for clearing in KDPW_CCP on a day that is not a business day in the clearing currency calendar are queued and accepted for clearing on the next business day in the calendar provided that their acceptance does not exceed the collateral limit.
5. On any day that is not a business day in the PLN OTC calendar, participants cannot deposit PLN securities or PLN cash as margins. If participants trade in EUR, which generates additional margin requirements, participants may deposit EUR securities or EUR cash as margins. Those are credited to collateral at the applicable haircut and exchange rate.
6. Derivatives clearing in different currencies may be registered in one account.
7. Messages distributed to participants at the close of business specify the clearing amount by account and by currency. On any day that is not a business day in the PLN OTC calendar, participants receive no message specifying the PLN clearing amount and the required margin.
8. Variation margins, settlement amounts, coupons, settlement adjustments, PAI/PAA, additional payments (fee) paid in a foreign currency are converted in fund calculations at the PLN exchange rate at the close of business.

3 CLEARING MODELS

The clearing model of single-currency transactions in currencies other than PLN is the same as the clearing model single-currency transactions in PLN.

Participants must hold in their own accounts in the relevant settlement system, no later than 08:45 a.m. (15 minutes before the OTC clearing session opens), cash balances sufficient to execute payment instructions generated during the netting session on the previous day, i.e., PLN cash balances in the account with NBP's Payment System Department (DSP) and EUR cash balances in the account with Target2.

3.1 CLEARING COMPONENTS

The section below describes the calculation method of clearing components in the transaction currency.

- Marking to market (*MtM*)

The valuation formulae applicable to different financial instruments are presented in Appendix 6 to the Detailed Rules of the OTC Clearing System.

The valuation of interest rate derivatives uses projection curves, as well as a discount curve, determined separately for each clearing currency

- Daily change of transaction valuation: *variation margin or settlement amount*

The variation margin or settlement amount (VM) is the difference between the current valuation of a transaction and its valuation as at the previous day. For transactions accepted for clearing on the current day, last day's valuation MtM_{t-1} is equal to 0.

$$VM = \sum_i (MtM_{i,t} - MtM_{i,t-1}) \quad \text{(Formula 1)}$$

- Price Alignment Interest/Price Alignment Amount (PAI/PAA)

PAI_t / PAA_t is the amount of interest or payment on the incremental variation margin or incremental settlement amount paid, calculated at the applicable O/N interest rate, respectively.

The incremental variation margin or incremental settlement amount paid until day $t-1$ is equal to valuation as at day $t-1$: $MtM_{i,t-1}$.

PAI_t / PAA_t is calculated as follows:

$$PAI_t / PAA_t = - \sum_i MtM_{i,t-1} * r_t * YF_{t,t+1} \quad \text{(Formula 2)}$$

where:

$MtM_{i,t-1}$	– value of transaction i at day $t-1$
i	– transaction index,
r_t	– rate for the currency at day t ,
YF	– year fraction,
t	– clearing day index.

- Interest amount Cpn

Interest amount paid for the current interest period according to the terms of the transaction.

- Additional payments (fee)

The amounts and dates of additional payments (fee) are specified directly in the terms of the transaction.

- Settlement adjustment ($SAdj$)

$SAdj$ is equal to the sum of all adjustments for:

- automatic closing of positions and closing of positions on demand (auction);
- settlement in another settlement system (for repos);
- position transfers (porting);

- other single payments.

For auctions, the settlement amount is the sum of amounts of all bids accepted in all of the day's auctions. The result of a single auctions is equal to the sum of products of accepted price per portfolio unit times the number of units.

For position porting (transfer from an account), the settlement amount is the aggregate value of the cleared *MtM* for all transferred transactions registered in the account. The settlement adjustment is offset against *VM*, which means that the participant that takes over the position pays the net adjustment only from the last clearing date.

3.2 PAYMENT AMOUNT

The *IM* payment is calculated PLN irrespective of the derivative instrument type and currency.

The payment required in a foreign currency is calculated as follows:

$$SA_{CURR} = VM_{CURR} + PAI_{CURR}/PAA_{CURR} + SAdj_{CURR} + Cpn_{CURR} + fee_{CURR} \text{ (Formula 3)}$$

The payment required in PLN is calculated as follows:

$$Payment = SA_{PLN} - IMC + IM - DFC + DF \text{ (Formula 4)}$$

where:

SA_{PLN}	– margin in PLN according to Formula 3
IMC	– recognised value of collateral deposited as margin
IM	– margin requirement
DFC	– recognised value of collateral deposited as OTC default fund contribution
DF	– OTC default fund contribution requirement

Note: KDPW_CCP system messages follow a convention where a negative number stands for a credit of the participant and a debit of KDPW_CCP while a positive number stands for a debit of the participant and a credit of KDPW_CCP.