

# Expected Credit Loss / Risk Provision

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The expected credit loss is considered as risk provision.

Depending on the stage which explains the deterioration of credit quality the expected credit loss is calculated on a 12-Month or Lifetime basis.

For stage 3 impaired deals, the significance of the deal decides if risk provision is calculated based on impairment\_type "specific provision" or "lump sum specific".

The calculation of Expected Credit Loss in general is based on the following parameters: PD, LGD, EAD and takes probability-weighted macroeconomic scenarios into account.

For PD and LGD for combinations of segment and stage values can be configured. These values can refer to internal or external sources. In case the source provides only a loss rate, the loss rate shall be captured as LGD and the PD shall be set = 1.

For different time periods over the lifetime of a financial instrument, different EAD are calculated, e.g. EAD in 3 months, 6 months, 1 year, 2 years etc. This approach takes into account that for a financial instrument with a regular repayment plan, e.g. annuity, the EAD for future periods will be different to the current book value due to repayments.

To reflect possible repayments, the estimated cash flow plan over the lifetime of a financial instrument is generated on the basis of the contractual agreement. On the basis of the cash flow plan, the EAD for different periods in the future is calculated using the amortised cost and the adjustment of 3 months overdue which may occur before default.

In particular, the expected credit loss for an individual deal applying the probability-weighted approach is based on the following formula:

$$ECL := \sum_{i=0}^n SR(i) * PD(i, i + 1) * EAD(i) * LGD(i) * DCF(EIR, TG(i))$$

Here,

- $i$  goes through the periods  $0, \dots, n$  until the maturity of the deal. A period can be a month up to a year.
- $SR(i)$  is the survival rate of the deal for period  $i$ , i.e. the probability that the deal will not default until period  $i$ .
- $PD(i, i + 1)$  is the probability that, under the assumption that the deal has not yet defaulted at the beginning of period  $i$ , the deal will default during period  $i$ .
- $EAD(i)$  is the deal's exposure at default that is expected for period  $i$ .
- $LGD(i)$  is the loss given default. It is expressed as a percentage of the exposure that is likely to be lost when the deal is in default.
- $DCF(EIR, TG(i)) := e^{-EIR * TG(i)}$  is the discount factor that adjusts the expected loss to its time value as of the reporting date, where  $EIR$  is the effective interest rate and  $TG(i)$  is the time gap between the beginning of the deal and the current period  $i$ .

This Expected Credit Loss is the lifetime value of the deal, covering its whole remaining term. For deals in stage 1, where the credit risk did not increase significantly since initial recognition,  $n$  is adjusted accordingly so that it covers 12 months.

Consideration of macroeconomic scenarios is considered in configured values for PD and LGD.

The calculation of Expected Credit Loss Stage 2 is based on the same approach like for Expected Credit Loss Stage 1. For deals in stage 2, the parameter  $n$  in the formula covers the remaining lifetime of the financial asset.

The measure "Expected Credit Loss Stage 3 Lump Sum Specific Provision" is related to non-significant financial assets. A financial asset is significant in case its total exposure exceeds a configured threshold.

The amount of the measure equals the risk provision at individual deal level. The basis of calculation is the comparison of the Gross Carrying Amount (GCA) and the recoverable amount. For **non-significant** deals, the recoverable amount is derived on a configurable loss rate. The loss rate shall be calculated using **statistical methods** applied to historic performance information on the segment to which the individual deal belongs. Expected credit losses for non-significant financial assets are posted as Lump Sum Specific Provision.

The measure "Expected Credit Loss Stage 3, Specific Provision" is related to significant financial assets. A financial asset is non-significant in case its total exposure does not exceed or equals to a configured threshold.

The amount of the measure equals the risk provision at individual deal level. The basis of calculation is the comparison of the Gross Carrying Amount (GCA) and the recoverable amount. For **significant** deals, the recoverable amount is derived on the basis of individual deal specific recovery cash flows. Expected credit losses for significant deals are posted as Specific Provision.