CEIOPS
Committee of European Insurance and Occupational Pensions Supervisors

CEIOPS-DOC-38/09

CEIOPS' Advice for Level 2 Implementing Measures on Solvency II:

Technical provisions- Article 86 g

Counterparty default adjustment to recoverables from reinsurance contracts and SPV's

(former CP 44)

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1. Introduction

1.1. In its letter of 19 July 2007, the European Commission requested CEIOPS to provide final, fully consulted advice on Level 2 implementing measures by October 2009 and recommended CEIOPS to develop Level 3 guidance on certain areas to foster supervisory convergence. On 12 June 2009 the European Commission sent a letter with further guidance regarding the Solvency II project, including the list of implementing measures and timetable until implementation.[1]

1.2. This Paper aims at providing advice with regard to the methods to be used when calculating the counterparty default adjustment to recoverables from reinsurance contracts and special purpose vehicles as requested in Article 86(g) of the Solvency II Level 1 text.[2]

1.3. This advice should be read in coordination with other related advice (i.e. the allowance of risk mitigating techniques when calculating the counterparty default adjustment of reinsurance and SPV recoverables, should be read in coordination with CEIOPS-DOC-26/09 advice on allowance of financial mitigation techniques or CEIOPS-DOC-48/09 advice on standards for internal model approval).[3]

[1] See http://www.ceiops.eu/content/view/5/5/

[2] Latest version from 19 October 2009 available at http://register.consilium.europa.eu/pdf/en/09/st03/st03643-re01.en09.pdf.

[3] Former CP 31 at http://www.ceiops.eu/index.php?option=content&task=view&id=579 and former CP 56 at http://www.ceiops.eu/index.php?option=content&task=view&id=607.

2. Extract from Level 1 text

2.1 Legal basis for implementing measure

Article 86 - Implementing measures

The Commission shall adopt implementing measures laying down the following:

[…]

(g) the methods to be used when calculating the counterparty default adjustment referred to in Article 81 designed to capture expected losses due to default of the counterparty […]

2.2 Other relevant Level 1 text for providing the background to the advice

Recitals

(53) In order to allow insurance and reinsurance undertakings to meet their commitments towards policyholders and beneficiaries, Member States should require those undertakings to establish adequate technical provisions. The principles and actuarial and statistical methodologies underlying the calculation of those technical provisions should be harmonised throughout the Community in order to achieve better comparability and transparency.

(54) The calculation of technical provisions should be consistent with the valuation of assets and other liabilities, market consistent and in line with international developments in accounting and supervision.

(58) It is necessary that the expected present value of insurance liabilities is calculated on the basis of current and credible information and realistic assumptions, taking account of financial guarantees and options in insurance or reinsurance contracts, to deliver an economic valuation of insurance or reinsurance obligations. The use of effective and harmonised actuarial methodologies should be required.

Article 76 - General provisions

> *2. The value of technical provisions shall correspond to the current amount insurance and reinsurance undertakings would have to pay if they were to transfer their insurance and reinsurance obligations immediately to another insurance or reinsurance undertaking.*
>
> *3. The calculation of technical provisions shall make use of and be consistent with information provided by the financial markets and generally available data on insurance and reinsurance technical risks (market consistency).*
>
> *4. Technical provisions shall be calculated in a prudent, reliable and objective manner.*

Article 77 – Calculation of the technical provisions

> *2. The best estimate shall correspond to the probability-weighted average of future cash-flows, taking account of the time value of money (expected present value of future cash-flows), using the relevant risk-free interest rate term structure.*

The calculation of the best estimate shall be based upon up-to-date and credible information and realistic assumptions and be performed using adequate, applicable and relevant actuarial and statistical methods.

The cash-flow projection used in the calculation of the best estimate shall take account of all the cash in- and out-flows required to settle the insurance and reinsurance obligations over the lifetime thereof.

The best estimate shall be calculated gross, without deduction of the amounts recoverable from reinsurance contracts and special purpose vehicles. Those amounts shall be calculated separately, in accordance with Article 80.

Article 81 - Recoverables from reinsurance contracts and special purpose vehicles

The calculation by insurance and reinsurance undertakings of amounts recoverable from reinsurance contracts and special purpose vehicles shall comply with Articles 76 to 80.

When calculating amounts recoverable from reinsurance contracts and special purpose vehicles, insurance and reinsurance undertakings shall take account of the time difference between recoveries and direct payments.

The result from that calculation shall be adjusted to take account of expected losses due to default of the counterparty. Such adjustment shall be based on the assessment of the probability of default of the counterparty and the average loss resulting therefrom (loss-given-default).

3. Advice

3.1. Explanatory text

3.1. Article 81 of the Level 1 text stipulates that recoverables from reinsurance contracts or special purpose vehicles shall take account of expected losses due to default of the counterparty. This should be done in two steps. Firstly, the recoverables are calculated without an allowance for counterparty default. Secondly, an adjustment for counterparty default is applied to the result of the first step.

3.2. Article 81 further requires that the adjustment is based on a market consistent assessment of the probability of default of the counterparty and the average loss resulting from this default (loss-given-default). However, the Level 1 text does not explicitly define the adjustment. Therefore, the implementing measures could include a definition as follows:

The adjustment for counterparty default should approximate the losses-given default of the counterparty, weighted with the probability of default of the counterparty. The loss-given default is the expected present value of the change in cash-flows underlying the recoverables, resulting from a default of the counterparty at a certain point in time. Hence, the proposed approach is aiming for a market consistent price.

3.3. For example, let the recoverables towards a counterparty correspond to deterministic payments of C_1, C_2, C_3 in one, two and three years respectively. Let PD_t be the probability that the counterparty defaults during year t. Furthermore, we assume that the counterparty will only be able to make 40% of the further payments in case of default (i.e. its recovery rate is 40%). For the sake of simplicity, this example does not consider the time value of money. (However, its allowance, which is a requirement of the level 1 text, does not change the fundamental conclusions of the example) Then the losses-given-default are as follows:

Default during year …	Loss-given-default
1	$-60\% \cdot (C_1 + C_2 + C_3)$
2	$-60\% \cdot (C_2 + C_3)$
3	$-60\% \cdot C_3$

For instance, in year two the value of the recoverables is equal to $C_2 + C_3$. If the counterparty defaults in year two the value of the recoverables changes from $C_2 + C_3$ to $40\% \cdot (C_2 + C_3)$. As 60% of the recoveries are lost, the loss-given-default is $-60\% \cdot (C_2 + C_3)$.

3.4. The adjustment for counterparty default in this example is the following sum:

$$Adj_{CD} = PD_1 \cdot (-60\% \cdot (C_1 + C_2 + C_3)) + PD_2 \cdot (-60\% \cdot (C_2 + C_3)) + PD_3 \cdot (-60\% \cdot C_3).$$

3.5. The determination of the adjustment for counterparty default should take into account possible default events during the whole run-off period of the recoverables. In particular, if the run-off period of the recoverables is longer than one year, then it is not sufficient to multiply the expected loss in case of immediate default of the counterparty with the probability of default over the following year in order to determine the adjustment. In the above example, this approach would lead to an adjustment of

$PD_1 \cdot (-60\% \cdot (C_1 + C_2 + C_3))$.

Such an approach is not appropriate because it ignores the risk that the counterparty may – after surviving the first year – default at a later stage during the run-off of the recoverables.

3.6. The assessment of the probability of default and the loss-given-default of the counterparty should be based upon current, reliable and credible information. Among the possible sources of information are: credit spreads, rating judgements, information relating to the supervisory solvency assessment, and the financial reporting of the counterparty. The undertaking should not rely on information of a third party without assessing that the information is current, reliable and credible. Some criteria to assess the reliability of the information might be, e.g. neutrality, prudency and completeness in all material aspects.

3.7. In particular, the assessment of the probability of default should be based on methods that guarantee the market consistency of the estimates of PD. The undertaking may consider for this purpose methods generally accepted and applied in financial markets (i.e., based on CDS markets), provided the financial information used in the calculations is sufficiently reliable and relevant for the purposes of the adjustment of the recoverables from reinsurance.

3.8. A usual assumption about probabilities of default is that they are not constant over time. In this regard it is possible to distinguish between point-in-time estimates which try to determine the current default probability and through-the-cycle estimates which try to determine a long-time average of the default probability. For the purpose of the calculation of the adjustment for counterparty default, point-in-time estimates appear to be more appropriate, as they allow for a more realistic modelling of the expected loss and are therefore more likely to meet the requirements of an economic and market consistent approach required by the Level 1 text to value assets and liabilities for solvency proposes (Articles 75 to 84). Thus, point-in-time estimates should be the default approach. Using point-in-time estimates the time dependence of the probabilities should be taken into account.

3.9. In many cases only through-the-cycle estimates may be available. For example, the credit ratings of rating agencies are usually based on through-the-cycle assessments. Moreover, the sophisticated analysis of the time dependence of the probability of default may be disproportionate in most cases. Hence, through-the-cycle estimates might be used if point-in-time estimates cannot be derived in a reliable, objective and prudent manner or their application would not be in line with the proportionality principle. If through-the-cycle estimates are applied, it can usually be assumed that the probability of default does not change during the run-off of the recoverables.

3.10. The assessment of the probability of default should take into account the fact that the cumulative probability increases with the time horizon of the assessment. For example, the probability that the counterparty defaults during the next two years is higher than the probability of default during the next year.

3.11. Often, only the probability of default estimate *PD* during the following year is known. For example, if this probability is expected to be constant over time, then the probability PD_t that the counterparty defaults during year t can be calculated as

$PD_t = PD \cdot (1 - PD)^{t-1}$. However, the Level 1 text is clear setting out as an overarching principle that the assessment of assets and liabilities should lead to market consistent estimates. CEIOPS notes that currently markets base their operations and modelling at this respect on transition matrices, which at the end likely derive in variable probabilities of default. This does not preclude the use of simplifications (see the third wave of advices) where the effect of them is not material at this aspect.

3.12. A challenging part of the assessment of the loss-given-default is the determination of the recovery rate of a counterparty, i.e. the share of the debts that the counterparty will still be able to honour in case of default. Owing to a low number of defaults, little empirical data about this figure in relation to reinsurers seems to be available. Hence, estimations of recovery rates are unlikely to be reliable. In order to ensure the objectivity and comparability of the calculation of technical provisions, it appears justified to restrict the degree of judgement that can be used in the estimation of the recovery rate. Therefore, if no reliable estimate of the recovery rate of any counterparty is available, no rate higher than 50% should be used.

3.13. In the case of reinsurance recoverables from a SPV, when the undertaking has no reliable source to estimate its probability of default, (i.e. there is a lack of rating) the following rules shall apply:

- SPV authorized under CEIOPS-DOC-32/09[4]: the probability of default shall be calculated according to the average rating of assets and derivatives held by the SPV in guarantee of the recoverable.
- Other SPV where they are recognized as equivalent to those authorized under CEIOP-DOC-32/09: Same treatment as in the case referred above.
- Others SPV: They shall be considered as unrated.

[4] Former CP 36. See http://www.ceiops.eu/index.php?option=content&task=view&id=584.

3.14. If the loss-given-default is restricted by mitigating instruments, for example collaterals or letters of credit, then this should be taken into account in the assessment. However, the Level 1 text requires considering the adjustment for the expected default losses of these mitigating instruments, i.e. the credit risk of the instruments as well as any other risk connected to them should also be allowed for. This allowance may be omitted where the impact is not material. To assess this materiality it is necessary to take into account the relevant features, such as the period of effect of the risk mitigating instrument.

3.15. In order to assess the credit risk that is related to the recoverables it is not sufficient to calculate only the overall amount of the adjustment. The adjustment for counterparty default should be calculated separately at least for each line of business and each counterparty in order to be able to allocate the credit risk to the segments and be able to identify risk concentrations. For the same reason, the adjustment should be calculated separately for non-life premium provision and non-life claims provisions.

3.16. If the number of counterparties is high, the separate calculation may be an undue burden, in particular, if the expected loss is small. In this case, it should be possible to calculate the adjustment for all counterparties of equal credit characteristics (probability of default and recovery rate) at once.

3.17. CEIOPS notes that there are in the reinsurance market cases where the differentiation of recoverables among the involved reinsurers is not immediate or easily workable. As the adjustment of reinsurance recoverables is in any case necessary and required by the Level 1 text, for the sake of harmonization, CEIOPS might develop Level 3 guidance in order to identify precisely these cases and the method to carry out the adjustment of reinsurance recoverables.

3.2 CEIOPS' advice

Calculation of the adjustment for counterparty default

3.18. Article 81 of the Level 1 text stipulates that recoverables from reinsurance contracts or special purpose vehicles shall take account of expected losses due to default of the counterparty. It further requires that the adjustment is based on a market consistent assessment of the probability of default of the counterparty and the average loss resulting from this default (loss-given-default).

3.19. The adjustment for counterparty default should approximate the losses-given default of the counterparty, weighted with the probability of default of the counterparty. The loss-given default is the expected present value of the change in cash-flows underlying the recoverables, resulting from a default of the counterparty at a certain point in time.

3.20. The determination of the adjustment for counterparty default should take into account possible default events during the whole run-off period of the recoverables.

3.21. The assessment of the probability of default and the loss-given-default of the counterparty should be based upon current, reliable and credible information. Among the possible sources of information are: credit spreads, rating judgements, information relating to the supervisory solvency assessment, and the financial reporting of the counterparty. The applied methods should guarantee market consistency. The undertaking should not rely on information of a third party without assessing that the information is current, reliable and credible.

3.22. Where possible in a reliable, objective and prudent manner, point-in-time estimates of the probability of default should be used for the calculation of the adjustment. In this case, the assessment should take the possible time-dependence of the probability of default into account. If point-in-time estimates are not possible to calculate in a reliable, objective and prudent manner or their application would not be proportionate, through-the-cycle estimates of the probability of default might be used.

3.23. The assessment of the probability of default should take into account the fact that the cumulative probability increases with the time horizon of the assessment.

3.24. If no reliable estimate of the recovery rate of a counterparty is available, no rate higher than 50% should be used.

3.25. If the determination of the adjustment for counterparty default allows for the effect of risk mitigating instruments, for example collaterals or letters of credit, then the credit risk of the instruments as well as any other risk connected to them should also be allowed for. This allowance may be omitted where the impact is not material. To assess this materiality it is necessary to take into account the relevant features, such as the period of effect of the risk mitigating instrument.

3.26. The adjustment for counterparty default should be calculated separately at least for each line of business and each counterparty in order to be able to allocate the credit risk to the segments and be able to identify risk concentrations. For the same reason, the adjustment should be calculated

separately for non-life premium provision and non-life claims provisions.

3.27. However, if the probability of default and the recovery rates of several counterparties coincide and if it is an undue burden to calculate the adjustment for counterparty default separately for each, the adjustment in relation to these counterparties might be calculated together.