

**Note presenting  
Opinion n° 2012-04  
of the 3rd July 2012  
relating to accounting for financial debts  
and derivative instruments  
of public accounting entities  
within the scope of  
the General Code of Territorial Authorities,  
the Code for Social Action and Families,  
the Code of Public Health  
and the Code of Building and Housing**

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On the 8th July 2011, the Public Sector Accounting Standards Council (CNoCP) issued an Opinion<sup>1</sup> on the disclosure of financial instruments in the notes. The basic minimum disclosure requirements were defined by reference to a classification of the loans of local public entities according to the level of risk incurred by the borrower. These disclosures of financial debts and derivative instruments shall provide the users of the financial statements with full information on the level of risks incurred and the proportion of risky loans in the portfolio.

## **1. Objective and scope of the Opinion**

The second phase of the Council's work relates to the recognition and measurement of financial debts and derivative instruments. The purpose of this second stage is to supplement or clarify the definition of accounting rules for loans, derivative instruments and hedging transactions in order to improve the accounting representation of the risks incurred in connection with the subscription of certain loans. Current budgetary and accounting instructions are indeed brief and no longer adapted to new financial instruments and in particular to structured loans. Moreover, their requirements do not cover accounting for hedging transactions.

Particular emphasis is placed on complex loans involving significant financial risks for public authorities and establishments and which might require the setting up of provisions<sup>2</sup>. The use of derivative instruments to hedge all or part of the risks of a loan and loan restructuring transactions are also dealt with.

The Council's Opinion also provides guidance on the accounting treatment of loans with beneficial interest rate features designed to structure interest payments. This accounting treatment sets out to present the periodic financial expense relating to a loan even when the interest payment does not occur in that period.

The Opinion applies to public accounting entities within the scope of The General Code of Territorial Authorities, The Code for Social Action and Families, The Code of Public Health and the Code of Building and Housing.

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<sup>1</sup> Opinion n° 2011-05 of the Public Sector Accounting Standards Council of the 8th July 2011 relating to the disclosure of financial debts and derivative instruments of public accounting entities within the scope of The General Code of Territorial Authorities, The Code for Social Action and Families, The Code of Public Health and The Code of Building and Housing.

<sup>2</sup> According to Ordinary Law (General Chart of Accounts, Article 212-3), a provision is defined as a liability with an uncertain amount or timing.

Hereafter in the note of presentation these entities are referred to as “local public entities”.

## **2. General principles**

The proposals reflect the level of complexity and of financial risk related to these products.

### ***2.1 Simple and complex products: definitions***

A distinction should be made between simple products and complex products which expose a local public entity to additional risk in exchange for an expected gain as compared to market conditions at the date the loan is subscribed. This distinction between simple and complex products is made on a case by case basis, according to the characteristics of the relevant financial instrument and its market context.

By way of illustration, transactions in categories above C or 3 in the classification of the « Gissler<sup>3</sup>Chart » include leverage effect, multiplying factors, indices or index spreads outside the euro zone and are therefore considered complex.

Products classified as simple are products with a simple fixed or floating interest rate. There may be an opportunity loss associated with these products. Thus, a fixed rate loan exposes its subscriber to an opportunity loss if market rates go down. Conversely, a floating rate product exposes its subscriber to an opportunity loss if the index rate goes up. These types of loan do not expose their subscribers to financial expense that increases at a rate significantly different to that of the market. They should therefore be able to benefit from a simple accounting treatment.

Complex products require risk evaluation based on financial calculations in order to measure the risk and make a provision if required. Certain complex products, like those including multiplying factors and/or a leverage effect generate risks that require financial evaluation on acquisition with an update on subsequent reporting dates.

The main risks concerned are interest rate risks, defined as the risk that there will be an unfavourable change in the interest rate of a loan. Interest rate

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<sup>3</sup> The Gissler classification is set out in Appendix 1.

risk is inherent to all financial products, but does not require any specific treatment when it is an opportunity loss.

However, the risk that the rate paid as a result of a financing package will become far higher than that which the entity would have incurred if it had initially subscribed a loan with a fixed or floating rate must be recognized in the accounts.

The market rate refers to the fixed rate on the date the loan is subscribed or to the floating rate corresponding to the maturity of the loan, without structuring. The 6 month Euribor rate is an example of the latter.

## ***2.2 Simple and complex products: examples***

The following examples illustrate the classification between simple and complex products for three different products.

### *Example 1*

Take a ten year loan with two phases.

The first phase, of two years, includes a beneficial fixed rate of 3,5% (the market rate is 5% for a fixed rate loan at the date of subscription), followed, for the second phase, by a fixed rate of 5% or by a simple floating rate of Euribor 6 months plus 50 basis points, at the bank's choice. In both cases the interest rate for the second period can be considered to be a market rate.

This type of loan can expose the subscriber to an opportunity loss but not to additional risk. It is therefore classified in the simple category. Indeed, in the second period, the loan may be converted into a fixed rate loan at 5%, which is an opportunity loss if market rates are lower, or be converted into a simple floating rate loan that follows market rates.

### *Example 2*

The second example relates also to a loan with two phases.

The first period includes a beneficial rate of 1%, followed for the second period, either by a fixed rate loan at 2,5% if the Euribor 6 month rate is lower than 3% or by an interest rate determined by a formula including a multiplying factor if the Euribor 6 month rate is equal or superior to 3%.

The formula is expressed as follows:  $2,5\% + 5 * (E6m - 3\%)$ .

In this example, when the Euribor 6 month rate exceeds the threshold of 3%, each 1% increase in the Euribor results in an increase of 5% of the interest rate payable by the borrower without any upper limit.

This loan is classified as complex because it carries the risk of paying interest significantly above market rates. This additional risk must be accounted for.

### *Example 3*

The loan is the same as in example 2, except that the interest rate determined by the formula in the second period is capped at 7,5%.

This loan is classified in the simple category because the cap limits effectively the impact of the multiplying factor so that the interest rate incurred is not significantly above market rate.

## **2.3 Accounting treatment: principles**

The following principles have been determined.

### **- *Simple products***

Interest expense is recognized on an accruals basis. However, when all or part of the interest payment is deferred, the annual interest expense is recalculated and recognized for each period on the basis of the effective interest rate for the loan, when this rate can be calculated or otherwise of the original market rate. The deferral of payment is effectively a cash facility and not a reduction in interest expense.

In application of this principle, for those loans which include a period at a beneficial interest rate, the benefit must be deferred until it is fully realized. Interest expense is recognized at the effective interest rate or at original market rate and the difference between this interest expense and that calculated at the beneficial rate is recognized as prepaid revenue.

For example, in the case of a 10 year loan at a fixed rate of 3%, including deferred payment up until the third year, interest expense must be recognized the first and second year even though this interest is effectively paid at a later date.

### **- *Complex products*, which involve an additional risk for the subscriber**

Complex transactions, including an additional risk component, that is the risk of paying interest at a rate far superior to that applicable to a simple product, require a specific accounting treatment. The objective is to translate the risk that the cost of the loan exceeds significantly market rates (Euribor, Libor, etc.) because of its structuring. These products generally offer a

beneficial rate as compared to that which would have been obtained originally by subscribing a simple product. This benefit is the remuneration for the sale of an option generally included in these products; this sale of an option reflects the fact that in granting the loan the bank may benefit from the right to remuneration far superior to market rates under certain conditions depending on future changes in interest rates<sup>4</sup>.

For example, a “sloped product” with a multiplying factor is a complex product.

In the first period, the loan has a floating rate of Eonia + 0,05%, then, in the second period, the rate varies as follows :

- If 30 years CMS rate - 5 years CMS rate > 0,4%, then the rate is = 3,07%
- otherwise, rate = 5,07% - 5\*( 30 years CMS - 5 years CMS)

Under certain assumptions about the evolution of interest rates, this type of product may bear interest far above market rates. This additional risk requires recognition in the accounts.

In the same way as for simple products, any benefit shall only be recognized when it is realized. This leads to recognizing annual interest expense at market rate and the positive difference between the interest paid and this rate is recognized in prepaid revenue.

Moreover, the additional risk incurred by the local public entity shall be recognized.

A financial evaluation of the risk included in the loan shall be carried out when the loan is first taken out, in general when the funds are transferred<sup>5</sup>. If this evaluation shows that there is a risk superior to the amount of the benefit obtained, then a provision is set up for the amount of the difference.

At this stage, we should stress that the local public entity is responsible for the choice of reference indices and financial evaluations used for risk evaluation and the determination of provisions.

#### ***2.4 Accounting treatment: illustrations***

The following illustrations are intended to present the accounting treatment to be adopted in each case for certain types of loan according to the defined classification.

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<sup>4</sup> The bank may not necessarily keep the option afterwards.

<sup>5</sup> This does not apply to short term credit facilities outside the scope of the Opinion.

#### 2.4.1 Fixed rate loan

Take a loan of 1 000 000 euros subscribed the 1<sup>st</sup> March for a period of 3 years. The interest rate is fixed at 5,5% for the full term of the loan.

Considering these characteristics, this loan is classified in the category of simple loans. Interest is recognized according to the accrual principle as presented in Appendix 2.

#### 2.4.2 Fixed rate “step-up loan”

A fixed rate loan of 1 000 000 euros with a “step-up” feature, with a 9 year term, to which the following interest rates apply:

- years 1 to 3, interest rate 0%
- years 4 to 6, interest rate 4%
- years 7 to 9, interest rate 7%

The effective interest rate over the term of this loan works out at 3,44% (The numerical data relating to this loan is set out in Appendix 3).

This product is identified as a simple product because the interest rate is fixed at the outset and there are no further risks for the entity.

It is however necessary to cancel out the beneficial interest effect of the first three years, by recalculating each year the interest expense at the effective interest rate. The amount of the deferred benefit is then reversed in order to reduce the interest expense of the six following periods.

As a simplification, the reverse of the deferred benefit which reduces the interest expense of the following periods is proposed on a straight line basis over the residual term of the loan.

A second method – correct but more complex – is also possible. It consists of cancelling out the beneficial interest effect by fully recalculating the annual interest expense over the term using a precise financial calculation. In this case, a new amortization schedule is prepared for the loan and the amount of the deferred benefit is reversed in years 4 to 9 based on the effective interest rate.

#### 2.4.3 Structured loan with multiplying factor

*First case: the cap fixed at 9% is not considered effective.*

This loan, of 1 000 000 euros with a 10 year term has the following characteristics:

- a first period of 4 years with a beneficial rate of 2,5%,

- a second period of 6 years :
  - fixed rate of 5% if Euribor 6 months (E6m) is below 4,5%
  - $5\% + 5\% * (E6m - 4,5\%)$  if Euribor 6 months (E6m) is above 4,5%

The second phase is capped at 9 %.

The effectiveness assessment must be carried out on a case by case basis taking into account not only the characteristics of the cap (rate of the cap, duration of protection, part hedged), but also market data, the complexity of the formula and of the reference rates used, and lastly the term of the loan and its materiality for the local public entity.

If on the basis of the assessment, the cap, whether it is included in the financial instrument or separate, does not sufficiently reduce the interest rate risk of the loan, it is considered ineffective. In this case, the maximum rate guaranteed by the cap is considered significantly superior to market rates over the term of the loan, and the product is treated as complex.

In the specific case of a cap of 9%, it is considered that the instrument does not provide protection or provides insufficient protection against an increase in interest rates.

The accounting treatment is as follows.

First option, after noting that the table with the corresponding figures is presented in Appendix 4. The beneficial effect of the first four years of 60 000 euros ( $1\ 000\ 000 * 1,5\% * 4$ ) is deferred, and the financial expense for this period is recognized on the basis of a market rate of Euribor 6 months, which works out at 4%.

In n+4, interest is calculated at 5%, which gives rise to an unfavourable difference of 1% as compared to the reference rate of 4%. 1/6<sup>th</sup> of the benefit is reversed. Market anticipations at that date are that the rate will be 5% for all of the coming period. The risk is therefore estimated à 50 000 euros ( $1\ 000\ 000 * 1\% * 5$ ). As the deferred amount of the benefit is 60 000 euros, no further provision is required.

As from n+5, the market anticipates a rate of 5,5% until the maturity of the loan. Interest is calculated at 9%, giving rise to an unfavourable difference of 3,5% compared to the reference rate of 5,5%. The risk is therefore estimated at 140 000 euros ( $1\ 000\ 000 * 3,5\% * 4$ ). As the balance of the deferred benefit amounts to 40 000 euros, after the reversal for the period, a provision of 100 000 euros is required. The risk estimation is updated at each reporting date on the basis of market anticipations.

A second option would be to adopt the same approach, but by calculating the original amount of the benefit and the excess expense of the following



periods by reference to the fixed market rate at the outset (4% in the example). The table setting out the corresponding figures is presented in Appendix 5.

In n+4, the figures are identical, with interest calculated at 5%, producing an unfavourable difference of 1% as compared to the reference rate of 4%. 1/6<sup>th</sup> of the benefit is reversed. Market anticipations at that date are for a rate of 5% for all of the coming period. The risk is therefore estimated at 50 000 euros (1 000 000\*1%\*5). The deferred benefit amounts to 60 000 euros, no further provision is required.

As from n+5, the market anticipates a rate of 5,5% until the maturity of the loan. Interest is calculated at 9%, giving rise to an unfavourable difference of 5% as compared to the reference rate of 4%. The risk is therefore estimated at 200 000 euros (1 000 000\*5%\*4). The balance of the deferred benefit is 40 000 euros, after the reversal for the period, a provision of 160 000 euros is required. The risk estimation is updated at each reporting date on the basis of market anticipations.

*Second case: the cap fixed at 7,5% is considered effective.*

This loan, of 1 000 000 euros with a 10 year term has the following characteristics:

- a first period of 4 years with a beneficial rate of 2,5%,
- a second period of 6 years :
  - fixed rate of 5% if Euribor 6 months (E6m) is below 4,5%
  - $5\% + 5 * (E6m - 4,5\%)$  if Euribor 6 months (E6m) is above 4,5%
  - The second phase is capped at 7,5 %

If on the basis of the assessment, the cap is considered effective, that is the maximum rate guaranteed by the cap is not considered significantly superior to market rates over the term of the loan, the product is treated as a simple product despite the complex formula.

In this case, the accounting treatment is as follows, the table setting out the corresponding figures is presented in Appendix 6.

The beneficial effect of the first four years is deferred, and the financial expense for these periods is recognized on the basis of the original market rate (4% in the example).

Once the beneficial interest period is complete, the amount of the benefit is reversed on a straight line basis over the remaining period. Interest expense for this period is equal to the interest calculated at the contractual rate for the loan less the amount of the reversed benefit.

Nevertheless, the reversal of the benefit should not lead to recognizing interest expense in surplus/deficit less than the amount that would have been recognized using the original market rate. Any remaining excess amount of the benefit is recognized in surplus/deficit at the maturity of the loan.

### **3. Hedging transactions**

#### ***3.1 Definition of a hedging transaction***

A hedging transaction consists of associating a hedged item and a hedging instrument in order to reduce the risk that the hedged exposure will have unfavourable effects on the surplus/deficit or net assets/equity of the entity.

In theory, exposure which can be hedged relates to market risks (interest rate, currency, raw materials). In practice, it is mainly interest rate and currency risks that are relevant for public entities.

The risks included in certain complex loans are offset by a hedging transaction. After hedging the loan can be assimilated to a simple product.

A transaction may include both a hedging component (which would meet the criteria for a hedge if the contract had taken that form) and an additional risk component (for example, a swap with leverage effect if interest rates exceed a certain level or a swap including interest indexed to 5 or 10 times the spread between the CMS 10 years and CMS 2 years rates). This type of transaction requires a different accounting treatment for each component: the accounting effects of the hedging instrument and the hedged item are matched. The additional risk is provided for in the same way as for the hedged loan.

#### ***3.2 Hedge accounting***

##### ***3.2.1 Hedging transactions without a risk component***

The purpose of hedge accounting is to translate the economic effect of risk reduction strategies into the financial statements. In order to achieve this, the pattern of recognition in surplus/deficit for the hedging instrument and the hedged item must be matched.

Thus, revenue and expense of the hedging instrument that is unrealized (accrued interest for example) or realized are recognized in surplus/deficit over the residual lifespan of the hedged item and matched with the revenue and expense of the latter.

When an over-the-counter derivative is qualified as a hedging instrument, the unrealized revenue and expense are matched in surplus/deficit with those of the hedged item. For example, interest on a swap is matched with the interest on the hedged loan, including accrued interest.

In the same way, the matching principle leads to deferring the recognition in the surplus/deficit of the amount of the initial adjustment in an interest swap transaction hedging a debt.

Hedge accounting does not affect the accounting treatment of the hedged item.

### *3.2.2 Transactions including a risk component*

Transactions including a hedging component and a risk component receive a specific accounting treatment. Considering the complexity of the instrument it is necessary to account separately for each of its components (as if the transaction had been carried out with two separate instruments):

- The hedging component is treated as a hedging transaction ;
- The remaining component which generates additional risk for the entity is provided for using the same approach as for the risk component of a complex loan.

## **4. Debt restructuring**

Loan renegotiations may take different forms.

In order to ensure the transparency of the information on the total cost of the restructuring transaction and a consistent accounting treatment whatever the form of the renegotiation or restructuring, a definition of the cost of the transaction is required, in particular:

- When compensation is paid immediately,
- When compensation is capitalized,
- When the compensation is included in the financial conditions of the new loan (i.e. included in future interest).

In order to ensure a consistent accounting treatment to cover all these situations it is not sufficient simply to disclose the cost of the renegotiation in the notes, as this cost must be recognized in the accounts.

The amount of the restructuring compensation should therefore be identified; this information is either obtained directly from the counterparty, or by comparing the net present value (NPV) of the old and the new loan which should be systematically provided.

The compensation is included in expense for the period. It may be deferred under certain well-defined conditions.

Considering that it would be contrary to the principle of prudence to defer the compensation expense over the life of the new loan, compensation shall be expensed over the residual term of the initial loan before renegotiation or over the term of the new loan if it is shorter.

When several loans are restructured and a single compensation payment is made for all of them, the expense shall be deferred over the weighted average of the residual term of the different loans before renegotiation or over the term of the new loan if that is shorter.

Where there is a residual balance of deferred benefit for a renegotiated loan, the remaining amount of the benefit is offset against the cost of compensation before deferral of the latter.

## **5. Qualification of the change and effective date**

The first application of this Opinion consists of a change in accounting policy.

Thus, on the first application date of the requirements, a risk evaluation shall be carried out for loans taken out before the adoption of the Opinion that have the characteristics of a complex loan and a provision made if applicable. The full amount of the provision is recognized directly in net assets/equity.

The first application of this Opinion has no accounting consequences for simple loans including those with a beneficial interest period.

The Opinion is applicable to accounting periods as from 2013 (accounts closed the 31st December 2013).

### *Example of the structured loan with multiplying factor (paragraph 2.4.3)*

The beneficial effect in the first four years has not been reversed; the annual interest expense of 25 000 euros has been calculated at the beneficial rate of 2,5% (1 000 000\*2,5%).

The Opinion is applied in n+4. At this date, interest is calculated at 5%, giving rise to an unfavourable difference of 1% as compared to the reference rate of 4%. Market anticipations at this date are that the rate will be 5% for all the coming period. The risk is therefore estimated at 50 000 euros ( $1\,000\,000 \times 1\% \times 5$ ). A provision for this amount is required and charged directly to net assets/equity.

As from n+5, market anticipations are for a rate of 5,5% until the maturity of the loan. Interest is calculated at 9%, giving rise to an unfavourable difference of 3,5% as compared to a reference rate of 5,5%. The risk is therefore estimated at 140 000 euros ( $1\,000\,000 \times 3,5\% \times 4$ ). A further provision of 90 000 euros is required. The risk is re-estimated at each reporting date on the basis of market anticipations.

In n+6, as market conditions are identical, the risk is estimated at 105 000 euros ( $1\,000\,000 \times 3,5\% \times 3$ ). The existing provision of 140 000 euros is reversed for an amount of 35 000 euros.

In n+7, as market conditions are identical, the risk is estimated at 70 000 euros ( $1\,000\,000 \times 3,5\% \times 2$ ). The existing provision of 105 000 euros is reversed for an amount of 35 000 euros.

In n+8, as market conditions are identical, the risk is estimated at 35 000 euros ( $1\,000\,000 \times 3,5\% \times 1$ ). The existing provision of 70 000 euros is reversed for an amount of 35 000 euros.

In n+9, the balance of the existing provision of 35 000 euros is reversed.

## **Appendices**

Appendix 1 - Extract of the charter of good conduct between banking institutions and local authorities known as the “Gissler Charter”

Appendix 2 - Fixed rate loan

Appendix 3 - Fixed rate “step-up loan”

Appendix 4 - Structured loan with multiplying factor – ineffective cap  
- option 1

Appendix 5 - Structured loan with multiplying factor – ineffective cap  
- option 2

Appendix 6 - Structured loan with multiplying factor – effective cap

Appendix 7 - Glossary

## Appendix 1

### Extract of the charter of good conduct between banking institutions and local authorities known as the “Gissler Charter”

Under the provisions of this charter, signatory institutions only sell the following types of products:

#### Table of risks

	Underlying indices
1	Euro zone indices
2	Inflation indices for France or euro zone or spread of these indices
3	Index spreads euro zone
4	Indices outside euro zone. Index spread where one of the indices is outside euro zone
5	Index spreads outside euro zone

	Structures
A	Simple fixed rate. Simple floating rate. Swap of fixed rate for floating rate or the opposite. Swap of structured rate for floating rate or fixed rate (one way). Simple floating rate with cap or tunnel.
B	Simple Barrier – no leverage effect
C	Swaption
D	Multiplying factor up to 3; multiplying factor up to 5 capped
E	Multiplying factor up to 5

## Appendix 2

### Fixed rate loan

	interest rate	accounting entries			
1 000 000 €					
31/12/n	5,50%	S	interest expense	46110 €	
					accrued interest 46110 €
1/01/n+1			accrued interest	46110 €	
					S interest expense 46110 €
1/03/n+1	5,50%	S	interest expense	55 000 €	
					cash 55 000 €
31/12/n+1	5,50%	S	interest expense	46110 €	
					accrued interest 46110 €
1/01/n+2			accrued interest	46110 €	
					S interest expense 46110 €
1/03/n+2	5,50%	S	interest expense	55 000 €	
					cash 55 000 €
31/12/n+2	5,50%	S	interest expense	46110 €	
					accrued interest 46110 €
1/01/n+3			accrued interest	46110 €	
					S interest expense 46110 €
1/03/n+3	5,50%	S	interest expense	55 000 €	
					cash 55 000 €

"S" : surplus/deficit



## Appendix 3

### Fixed rate “step-up loan”

1M€	conditions		accounting entries			
	initial	adjusted				
1	0	3,44%	S	interest expense(EIR basis)	34 400 €	
						accrued interest(prepaid) 34 400 €
2	0	3,44%	S	interest expense(EIR basis)	34 400 €	
						accrued interest(prepaid) 34 400 €
3	0	3,44%	S	interest expense(EIR basis)	34 400 €	
						accrued interest(prepaid) 34 400 €
4	4%		S	interest expense(EIR basis)	40 000 €	
						cash 40 000 €
				accrued interest (reversed)	5 600 €	
						S interest expense(EIR basis) 5 600 €
5	4%		S	interest expense(EIR basis)	40 000 €	
						cash 40 000 €
				accrued interest (reversed)	5 600 €	
						S interest expense(EIR basis) 5 600 €
6	4%		S	interest expense(EIR basis)	40 000 €	
						cash 40 000 €
				accrued interest (reversed)	5 600 €	
						S interest expense(EIR basis) 5 600 €
7	7%		S	interest expense(EIR basis)	70 000 €	
						cash 70 000 €
				accrued interest (reversed)	28 800 €	
						S interest expense(EIR basis) 28 800 €
8	7%		S	interest expense(EIR basis)	70 000 €	
						cash 70 000 €
				accrued interest (reversed)	28 800 €	
						S interest expense(EIR basis) 28 800 €
9	7%		S	interest expense(EIR basis)	70 000 €	
						cash 70 000 €
				accrued interest (reversed)	28 800 €	
						S interest expense(EIR basis) 28 800 €

"S" : surplus/deficit

Presentation of interest paid, net interest expense and deferred benefit

	Interest paid	Net interest expense	Deferred benefit	Changes in benefit
1	-	34 400	34 400	34 400
2	-	34 400	68 800	34 400
3	-	34 400	103 200	34 400
4	40 000	34 400	97 600	- 5 600
5	40 000	34 400	92 000	- 5 600
6	40 000	34 400	86 400	- 5 600
7	70 000	41 200	57 600	- 28 800
8	70 000	41 200	28 800	- 28 800
9	70 000	41 200	-	- 28 800
<b>Total</b>	<b>330 000</b>	<b>330 000</b>	<b>n/a</b>	<b>-</b>

## Appendix 4

### Structured loan with multiplying factor

#### Ineffective cap - option 1

1M€	conditions			difference	accounting entries				
	E6m	initial	applied						
1	4%	2,50%	4%	1,5%	S interest expense	40 000 €			
							cash		25 000 €
							accrued interest (prepaid)		15 000 €
2	4%	2,50%	4%	1,5%	S interest expense	40 000 €			
							cash		25 000 €
							accrued interest (prepaid)		15 000 €
3	4%	2,50%	4%	1,5%	S interest expense	40 000 €			
							cash		25 000 €
							accrued interest (prepaid)		15 000 €
4	4%	2,50%	4%	1,5%	S interest expense	40 000 €			
							cash		25 000 €
							accrued interest (prepaid)		15 000 €
5	4%	4,5%	5%	-1%	S interest expense	50 000 €			
						accrued interest (reversed)	10 000 €		
							S interest expense (reversal benefit)		10 000 €
							cash		50 000 €
6	5,5%		9%	-3,5%	S interest expense	90 000 €			
						accrued interest (reversed)	10 000 €	cash	90 000 €
					S allocation risk provision	100000€	S interest expense (reversal benefit)		10 000 €
							risk provision		100000€
7	5,5%		9%	-3,5%	S interest expense	90 000 €			
						accrued interest (reversed)	10 000 €	cash	90 000 €
						risk provision (adjustment)	25 000 €	S interest expense (reversal benefit)	10 000 €
							S reversal risk provision		25 000 €
8	5,5%		9%	-3,5%	S interest expense	90 000 €			
						accrued interest (reversed)	10 000 €	cash	90 000 €
						risk provision (adjustment)	25 000 €	S interest expense (reversal benefit)	10 000 €
							S reversal risk provision		25 000 €
9	5,5%		9%	-3,5%	S interest expense	90 000 €			
						accrued interest (reversed)	10 000 €	cash	90 000 €
						risk provision (adjustment)	25 000 €	S interest expense (reversal benefit)	10 000 €
							S reversal risk provision		25 000 €
10	5,5%		9%	-3,5%	S interest expense	90 000 €			
						accrued interest (reversed)	10 000 €	cash	90 000 €
						risk provision (adjustment)	25 000 €	S interest expense (reversal benefit)	10 000 €
							S reversal risk provision		25 000 €

"S" : surplus/deficit

The following tableau illustrates the effect of the accounting treatment on interest paid, interest expense, deferred interest benefit and provisions recognized in the books of the borrower:

	Interest paid	Net interest expense	Deferred benefit	Changes in the benefit	Provision	Changes in the provision
1	25 000	40 000	15 000	15 000	0	0
2	25 000	40 000	30 000	15 000	0	0
3	25 000	40 000	45 000	15 000	0	0
4	25 000	40 000	60 000	15 000	0	0
5	50 000	40 000	50 000	- 10 000	0	0
6	90 000	80 000	40 000	- 10 000	100 000	100 000
7	90 000	80 000	30 000	- 10 000	75 000	- 25 000
8	90 000	80 000	20 000	- 10 000	50 000	- 25 000
9	90 000	80 000	10 000	- 10 000	25 000	- 25 000
10	90 000	80 000	-	- 10 000	-	- 25 000
Total	600 000	600 000	n/a	-	n/a	-

## Appendix 5

### Structured loan with multiplying factor

#### Ineffective cap - option 2

1M€	conditions			difference	accounting entries				
	E6m	initial	applied						
1	4%	2,5%	4%	1,5%	S	interest expense	40 000 €		
								cash	25 000 €
								accrued interest (prepaid)	15 000 €
2	4%	2,5%	4%	1,5%	S	interest expense	40 000 €		
								cash	25 000 €
								accrued interest (prepaid)	15 000 €
3	4%	2,5%	4%	1,5%	S	interest expense	40 000 €		
								cash	25 000 €
								accrued interest (prepaid)	15 000 €
4	4%	2,5%	4%	1,5%	S	interest expense	40 000 €		
								cash	25 000 €
								accrued interest (prepaid)	15 000 €
5	4%	4,5%	5%	-1%	S	interest expense	50 000 €		
						accrued interest (reversal)	10 000 €		
								S interest expense (reversal benefit)	10 000 €
								cash	50 000 €
6	4%		9%	-5,0%	S	interest expense	90 000 €		
						accrued interest (reversal)	10 000 €	cash	90 000 €
					S	allocation risk provision	160000€	S interest expense (reversal benefit)	10 000 €
								risk provision	160000€
7	4%		9%	-5,0%	S	interest expense	90 000 €		
						accrued interest (reversal)	10 000 €	cash	90 000 €
						risk provision (adjustment)	40 000 €	S interest expense (reversal benefit)	10 000 €
								S reversal risk provision	40 000 €
8	4%		9%	-5,0%	S	interest expense	90 000 €		
						accrued interest (reversal)	10 000 €	cash	90 000 €
						risk provision (adjustment)	40 000 €	S interest expense (reversal benefit)	10 000 €
								S reversal risk provision	40 000 €
9	4%		9%	-5,0%	S	interest expense	90 000 €		
						accrued interest (reversal)	10 000 €	cash	90 000 €
						risk provision (adjustment)	40 000 €	S interest expense (reversal benefit)	10 000 €
								S reversal risk provision	40 000 €
10	4%		9%	-5,0%	S	interest expense	90 000 €		
						accrued interest (reversal)	10 000 €	cash	90 000 €
						risk provision (adjustment)	40 000 €	S interest expense (reversal benefit)	10 000 €
								S reversal risk provision	40 000 €

"S" : surplus/deficit

The following tableau illustrates the effect of the accounting treatment on interest paid, interest expense, deferred benefit and provisions recognized in the books of the borrower:

	Interest paid	Net interest expense	Deferred benefit	Changes in the benefit	Provision	Changes in the provision
1	25 000	40 000	15 000	15 000	0	0
2	25 000	40 000	30 000	15 000	0	0
3	25 000	40 000	45 000	15 000	0	0
4	25 000	40 000	60 000	15 000	0	0
5	50 000	40 000	50 000	- 10 000	0	0
6	90 000	80 000	40 000	- 10 000	160 000	160 000
7	90 000	80 000	30 000	- 10 000	120 000	-40 000
8	90 000	80 000	20 000	- 10 000	80 000	-40 000
9	90 000	80 000	10 000	- 10 000	40 000	-40 000
10	90 000	80 000	-	- 10 000	0	-40 000
Total	600 000	600 000	n/a	-	n/a	-

## Appendix 6

### Structured loan with multiplying factor effective cap

1M€	conditions		accounting entries				
	initial	adjusted					
1	2,50%	4,00%	S	interest expense	40 000 €		
						cash	25 000 €
						accrued interest (prepaid)	15 000 €
2	2,50%	4,00%	S	interest expense	40 000 €		
						cash	25 000 €
						accrued interest (prepaid)	15 000 €
3	2,50%	4,00%	S	interest expense	40 000 €		
						cash	25 000 €
						accrued interest (prepaid)	15 000 €
4	2,50%	4,00%	S	interest expense	40 000 €		
						cash	25 000 €
						accrued interest (prepaid)	15 000 €
5	5%		S	interest expense	50 000 €		
				accrued interest(reversed)	10 000 €	cash	50 000 €
						S interest expense(reversal benefit)	10 000 €
6	7,5%		S	interest expense	75 000 €		
				accrued interest(reversed)	10 000 €	cash	75 000 €
						S interest expense(reversal benefit)	10 000 €
7	5%		S	interest expense	50 000 €		
				accrued interest(reversed)	10 000 €	cash	50 000 €
						S interest expense(reversal benefit)	10 000 €
8	7,5%		S	interest expense	75 000 €		
				accrued interest(reversed)	10 000 €	cash	75 000 €
						S interest expense(reversal benefit)	10 000 €
9	7,5%		S	interest expense	75 000 €		
				accrued interest(reversed)	10 000 €	cash	75 000 €
						S interest expense(reversal benefit)	10 000 €
10	7,5%		S	interest expense	75 000 €		
				accrued interest(reversed)	10 000 €	cash	75 000 €
						S interest expense(reversal benefit)	10 000 €

	Interest paid	Net interest expense	Deferred benefit	Changes in benefit
1	25 000	40 000	15 000	15 000
2	25 000	40 000	30 000	15 000
3	25 000	40 000	45 000	15 000
4	25 000	40 000	60 000	15 000
5	50 000	40 000	50 000	- 10 000
6	75 000	65 000	40 000	- 10 000
7	50 000	40 000	30 000	- 10 000
8	75 000	65 000	20 000	- 10 000
9	75 000	65 000	10 000	- 10 000
10	75 000	65 000	-	- 10 000
<b>Total</b>	<b>500 000</b>	<b>500 000</b>	<b>n/a</b>	<b>-</b>



## Appendix 7

### Glossary

Issue date:	Date at which borrowed funds are made available and which is the starting point for the calculation of interest.
Maturity date:	Date when the payment of interest or principal is contractually due.
Nominal amount:	The amount initially borrowed.
Nominal rate:	Rate on which the calculation of loan interest is based.
Actuarial rate:	Effective interest rate of a loan for a period of one year and for which the interest is paid at the end of the year.
Swap:	Contract consisting of an exchange of interest rates (for example, floating rate exchanged for a fixed rate), or of currencies (for example, dollar for euro) over a period agreed in advance.
Cap:	Contract guaranteeing the purchaser an interest rate ceiling for an agreed period of time in exchange for the payment of a premium.
Floor:	Contract guaranteeing a minimum interest rate.
Option:	Contract which gives the holder the right (in exchange for the payment of a premium) to purchase or sell in the future an underlying instrument at a price fixed today.
Sloped product:	Products with an interest rate based on a spread between short and long rates.

Eonia, Euribor indices: Interbank interest rates for euro zone, with terms varying from 1 day (Eonia) to several months (Euribor).

Effective interest rate (EIR), Global effective rate (GER):

The effective interest rate or global effective rate is the one that exactly discounts future net cash outflows to the amount of the initial net cash received.

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