X-pand into the Future

e u r e x *circular 181/04*

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Update of Eurex User Manual – Information Manual Calculation Method for Dynamic Haircuts on Bonds

Related Eurex Circulars: 167/04

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Content may be most important for:	**Attachments:**
➲ All departments	Update of *Calculation of Dynamic Haircuts on Bond Positions*

Please be advised that an updated version of the Eurex User Manual – Information Manual in English language has been published on the Eurex website **www.eurexchange.com** under the path **Member Section > Documentation/ Manuals Eurex > Eurex 7.0 > General System Overview.**

As an important amendment, chapter 7 has been complemented by a detailed description of the calculation of dynamic haircuts for collateral valuation introduced on December 3, 2004. This description allows Eurex participants to reproduce individually the dynamic haircuts applied.

Please find attached an excerpt of the updated Eurex User Manual – Information Manual with detailed information as to the calculation of the dynamic haircuts.

Calculation of dynamic haircuts on bond positions

On December 3, 2004 Eurex Clearing AG introduced the dynamic haircut calculation on bond positions accepted as admissible collateral. This new calculation method leads to a better and fairer risk assessment of the collateral haircut calculation for clearing members.

In order to better understand the calculation method we are providing you with a detailed description of the formula.

The used formula is:

$$\text{Haircut} = \Delta B / B = - D * \Delta y / (1 + y/k) = (B(y + ?y) – B(y)) / B(y)$$

ΔB	=	Delta B, small absolute change of the Present Bond Price
B	=	Present Bond Price
D	=	Duration
Δy	=	Delta Yield , small change of yield to maturity (in % / 100)
y	=	yield to maturity (in % / 100)
k	=	number of coupons per year

The term D/(1+y/k) is called Modified Duration

$\Delta B/B$ is the relative change of the present bond value and therefore the searched haircut.

The Haircut is rounded to three digits.

The Collateral Value is

- (1-Haircut), if the calculated value is smaller or equal to the value published in the internet.
- The value published in the internet, else.

Example:

It is assumed that a bond with a market value of 1.000.000 € has a modified duration of 3.5 years and a Delta Yield of 0.8 percent. The calculated Collateral evaluation factor is (1 – (3.5*0.8/100)) = 0.972 (97.20 %). The result is rounded to three digits = 0.972 (97.20 %). In this example the haircut rate applied to the bond is 2.80 percent which in this case is higher as the minimum haircut rate of 2 percent published in the internet.

The value of the collateral is 0,972 * 1,000,000 € = 972.000 €.

The field *AutoCalcEvalPct* of the *Collateral Security Detail* window displays whether the calculation method is applied to the respective bond.

In addition the Eurex maintains a guideline for securities allowed to be deposited. It is available on the web at **www.eurexchange.com** under menu item **Clearing & Settlement > Market Information > Admissible Collateral Securities** (**http://www.eurexchange.com/clearing/marketinformation/acs.html**).