



# eurex clearing circular 094/11

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**Recipients:** All Clearing Members of Eurex Clearing AG and Vendors  
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Action required



High priority

## Introduction of Collateral Valuation based on Theoretical Models for Bond Collateral

**Related Eurex Clearing circular:** 041/10

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**Content may be most important for:**

- Middle + Backoffice
- IT/System Administration
- Auditing/Security Coordination

**Attachments:**

none

**Summary:**

Effective **December 12, 2011**, the Executive Board of Eurex Clearing AG decided to use calculated theoretical prices for the valuation of bond collateral where the market prices are not valid, i.e. where the market price is older than one business day.

Today, an increasing haircut based on a yield shift component is being applied to value an eligible collateral without a current market price.

As of the effective date, theoretical models will be used to ensure collateral valuation in line with the market, and to accept only bond securities as collateral for which the market price is available or a theoretical price can be calculated. Eurex Clearing's eligibility criteria will be adapted accordingly.

Eurex Clearing will apply to any theoretical price a "confidence factor" in addition to the haircut already used for the bond collateral. The confidence factor mitigates the risk arising from approximation differences. The theoretical prices and their corresponding confidence factors will be regularly published by Eurex Clearing.

This service will be free of charge for the introduction period of six months.

Kindly forward this product announcement to all involved departments within your company.

## **Introduction of Collateral Valuation based on Theoretical Models for Bond Collateral**

With this circular Eurex Clearing AG announces the introduction of theoretical models for the valuation of bond collateral, effective December 12, 2011. Theoretical price valuation will take place in the overnight batch run.

Today, an increasing haircut based on a yield shift component, as introduced in 2010 by Eurex Clearing (please refer to Eurex Clearing circular 041/10), is applied to value eligible collateral without a current market price.

As of December 12, 2011, prices calculated on the basis of theoretical valuation models will be used to value Eurex Clearing eligible collateral for which the market price is not available. Theoretical prices will be calculated daily for all accepted bonds using models (e.g. One-Factor-Hull & White) based on components established in the market (e.g. yield curves). In addition, the usual Eurex Clearing haircuts for bond collateral will continue to be applied.

The currently employed additional yield shift component will remain in place as a backup method in case of business contingency.

The availability of a theoretical price will be considered as part of the Eurex Clearing eligibility criteria: Only those bonds for which a theoretical price will be calculated will be eligible as bond collateral, regardless of whether the market price is available or not (see the bond structures below).

### **Non-eligible Securities**

In order to allow enough time for the Clearing Members prior to the introduction date to successively substitute the securities that will no longer be eligible, a list of the non-eligible securities effective December 12, 2011, will be temporarily published free of charge as of today, and an update of the list on the effective date. The "Ineligible Assets" file is available for download on the Eurex Clearing website under the following path:

**[www.eurexclearing.com](http://www.eurexclearing.com) > Risk Management > Risk Parameters**

Click here to be directly forwarded:

[http://www.eurexclearing.com/risk/parameters\\_en.html](http://www.eurexclearing.com/risk/parameters_en.html)

Non-eligible bond collateral that is not substituted by December 12, 2011, will be valued zero; the difference to the amount claimed by Eurex Clearing will have to be covered by other collateral, either securities or cash.

### **Admissible Securities**

The eligible assets will be regularly updated including their market prices, as today, and are available in the file "Admissible Securities" also for download from the website under the same path as mentioned above.

Within this file, the admissible securities with the valid market price are flagged in the new column "Market Price Validity". For those securities, where the market price is not earmarked, i.e. is not valid, the new file including the theoretical prices must be used to calculate the collateral value, as described in the following section.

### Theoretically valued Bond Collateral

Bonds must have the following coupon structure in order to be theoretically valued:

- Non-callable fixed rate bonds with zero or non-zero coupon
- Non-callable floating rate bonds, which refer to a single reference curve with constant structure (i.e. they do not switch between fixed and floating coupons)
- Non-callable reverse floating rate bonds with constant structure

The theoretical models based on the following components are applied, if possible:

1. Determination of the appropriate issuer-specific credit curve corresponding to peer groups, i.e. issuer, guarantor, tier and currency
2. Application of an individual spread that accounts for issue specifics
3. Application of standard pricing formulas

In order to account for approximation differences inherent to the theoretical models, a confidence factor will be applied to each theoretical price. The confidence factors are determined based on the respective model and are peer group specific.

As of December 12, 2011, Eurex Clearing will distinguish between two cases to achieve collateral valuation in line with the market:

1. Current market price is available  
-> Market price is used and the haircut is applied; leading to the formula:  
$$\text{Collateral Value} = \text{Market Price} * (1 - \text{Haircut})$$
2. Current market price is not available  
-> Theoretical price is used and the haircut as well as the confidence factor are applied; leading to the formula:  
$$\text{Collateral Value} = \text{Theoretical Price} * \text{Confidence Factor} * (1 - \text{Haircut})$$

Eurex Clearing will always calculate theoretical prices for the above specified bonds that have a market price as the price difference serve as basis to calibrate the confidence factors.

According to the current status, the confidence factor will not be displayed separately on the Eurex @X-tract Clearing GUI and not in relevant reports but will be included in the respective price information.

The single eligible instruments with their theoretical prices and confidence factors will be published daily in the respective file, which may be downloaded from the website under the following path:

**[www.eurexclearing.com](http://www.eurexclearing.com) > Risk Management > Risk Parameters > Theoreticals > Collateral**

### File Service Subscription

The service is to be requested for the company, not for the single users of the company. Access to the current files distributed via a closed user group is governed by the File Service Agreement. Please send one signed copy of the File Service Agreement by e-mail to [customer.service@deutsche-boerse.com](mailto:customer.service@deutsche-boerse.com) or by fax to +49-69-211-1 45 01 with two originals to follow by mail to Deutsche Börse AG, Market Data & Analytics, D-60485 Frankfurt/Main. Upon receipt of the agreement you will receive the necessary account information.

Click here to be directly forwarded to the agreement:

[http://www.eurexclearing.com/risk/file\\_services/agreement\\_en.html](http://www.eurexclearing.com/risk/file_services/agreement_en.html)

The service of valuing bond collateral by theoretical prices will be offered free of charge until May 31, 2012. From June 1, 2012, the product "Theoretical Price Data for Collateral" will cost end users EUR 500.00 (excl. VAT) per month and vendors EUR 2,500.00 (excl. VAT) per month as specified in the File Service Agreement, Appendix 1.

The current files are available for the last 20 days (starting from the introduction date) via the closed user group. Files including data older than 20 days can be ordered at the Deutsche Börse AG WebShop for Historical Data under: [datashop.deutsche-boerse.com](http://datashop.deutsche-boerse.com).

For assistance please contact the above-mentioned Deutsche Börse Customer Service Market Data & Analytics.

For any questions please contact the above-mentioned helpdesk of Clearing & Risk Operations.

Please find further details of the Collateral Management Services in the brochures which may be downloaded from the Eurex Clearing website under the following paths:

**[www.eurexclearing.com](http://www.eurexclearing.com) > Risk Management > Collateral Service**

and

**[www.eurexclearing.com](http://www.eurexclearing.com) > Risk Management > Collateral Service > Collateral Management Services**

Click here to be directly forwarded:

[http://www.eurexclearing.com/risk/collateral\\_service\\_en.html](http://www.eurexclearing.com/risk/collateral_service_en.html)

and

[http://www.eurexclearing.com/risk/collateral\\_service/collateral\\_management\\_services\\_en.html](http://www.eurexclearing.com/risk/collateral_service/collateral_management_services_en.html)

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