

## PRICING METHODOLOGY

### 1. Remaco Pricing Methodology

RDL provides pricing indications for bond coupons, bonds being issued at par (100%). The coupon is determined accordingly. Since investors participate in a tender process, prices offered might deviate substantially from the price indicated by RDL. RDL is a primary market platform that places bonds with no or limited liquidity on a best effort basis.

For the indicative pricing we apply an illiquidity premium of 30 % relative to the capital market spread. This illiquidity premium is applied consistently and based on the arguments below. Since the illiquidity premium is imputed as a percentage of the spread, premiums for high spreads can be of substantial size. Section 2.2. provides further information on the illiquidity premium.

#### 1.1. Determination of the indicative coupon

We use equation 1 to calculate the indicative coupon ( $c_t$ )

$$c_t = gov_t + credit_t + illiquidity_t \quad (1)$$

where  $gov$  is the yield of a government bond which is assumed to be risk free,  $credit$  is a premium for the risk of default and  $illiquidity$  is a premium for the limited market liquidity.

#### 1.2. Private company's illiquidity discount considerations and methodology

Default-related credit risks are defined as the bond's expected loss on default plus the risk premium that investors demand for the possibility that corporate defaults will be higher than expected. The additional part of the spread, which is not explained by default-related credit risk, is referred to as liquidity risk premium.

Table 1: Bond spread breakdown

Total spread	Illiquidity spread
	Credit spread
Government Yield	

Source: Own representation

The illiquidity spread can be interpreted as costs which have to be sustained in order to reverse the position almost instantaneously. Since investors want to be rewarded for holding illiquid assets, the less liquid assets are, the higher the spread should be.

In order to estimate the illiquidity premium we generalize and apply the findings of established academic research in this area. The most important results are summarized hereafter:

- Maher (1973) examines restricted stock purchases made by four mutual funds for the period 1969-73 and concludes that they traded an average discount of 35.43% on publicly traded stock in the same companies.
- Moroney (1976) reported a mean discount of 35% for acquisitions of 146 restricted stock issues by 10 investment companies, using data from 1970.
- Silber (1991) examines restricted stock issues from 1984 to 1989 and finds that the median discount for restricted stocks is 33.75%.

On average findings confirm a substantial discount for illiquid investments. Much of the practice of estimating illiquidity discounts seems to use a rule of thumb setting the illiquidity discount at approximately 30%.

The application of an illiquidity premium (constant rate) of 30 % leads to the following imputation of the recommended indicative coupon:

$$c_t = gov_t + credit_t + (0.3 \times credit_t) \quad (2)$$

where *gov* is the yield of a government bond which is assumed to be risk free, *credit* is a premium for the risk of default and *illiquidity* is a premium for the limited tradability, in our case constantly equal to 30 % on the spread applied.