

# Using credit risk measures to price intercompany loans

06 Apr 2010

*Gordon Hands of CUFTanalytics discusses the merits of external credit ratings and forward-looking probability of default as credit risk measures when selecting comparable uncontrolled financial transactions (CUFTs)*

---

Credit risk drives the pricing of debt instruments and is therefore an important search criteria for selecting available market data. Typically the credit risk profile of the related-party borrower has been defined by an estimated (or synthetic) credit rating. Thus, the common credit risk measure in selecting comparable debt instruments has been the credit rating. For example if a tested borrower's estimated credit rating is a Ba/BB then a search would be made for comparable debt instruments within the whole letter credit rating category of Ba/BB.

However, the credit ratings produced by the external credit rating agencies are intended to measure the long-term credit strength of the company (or its debt instrument) through the entire business cycle (also known as rating through-the-cycle) and does not, at least not explicitly, include a short-term creditworthiness assessment which is evidenced by changes in market sentiment. Thus, as the borrower's financial position improves or deteriorates market sentiment will affect the pricing but the external credit rating will likely not change.

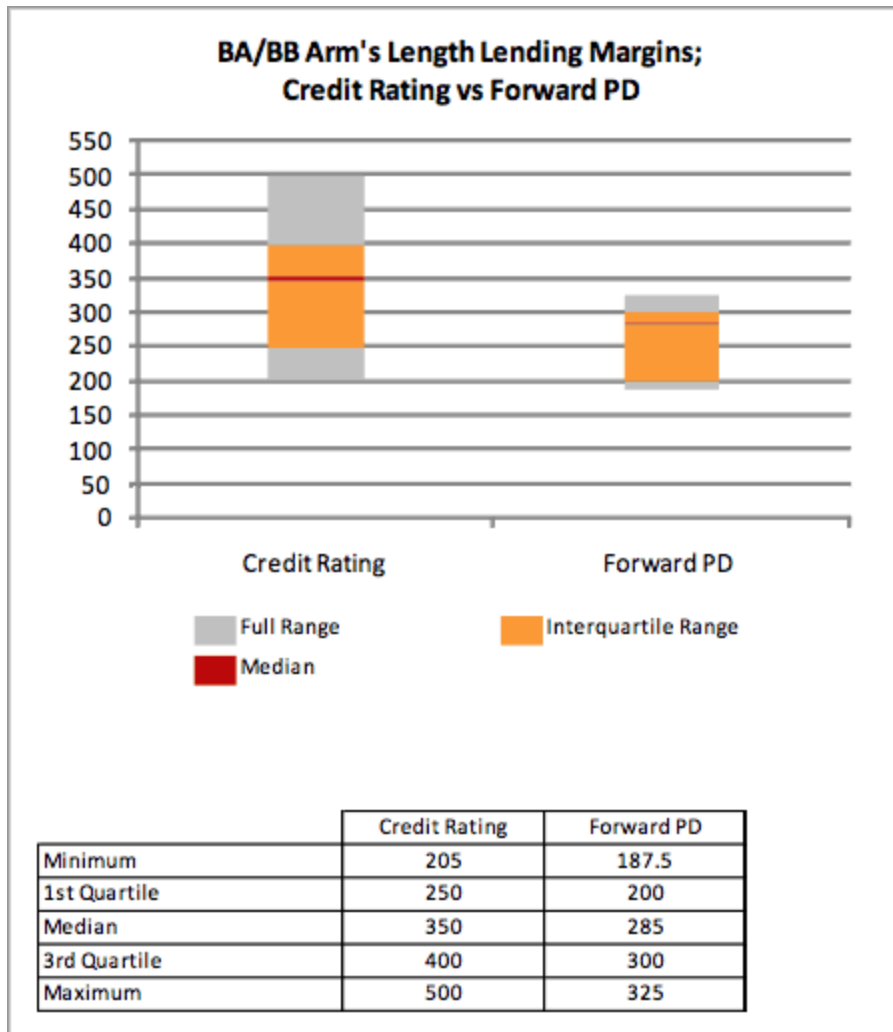
The external credit rating of a borrower may be too static to be used as a common credit risk measure for selecting available market data for transfer pricing purposes. Specifically, the external credit rating may not reflect the perceived credit risk of the borrower's debt instrument by the lender at the time the loan transaction is executed.

So is the external credit rating the right credit risk measure to use in selecting comparables or other pricing data? There is another credit risk measure that more appropriately reflects the current creditworthiness of a borrower, the forward-looking probability of default.

Credit ratings are mapped by the credit rating agencies from a defined range of estimates for the forward-looking probability of default (PD) (also referred to as expected default frequency or EDF) which is derived from the level of expected loss (EL). EL is the expected credit loss that is specific to the borrower's debt transaction and is the product of the borrower's PD and the estimated loss given default (LGD). Credit risk estimation models or tools are available to estimate the PD and LGD of the tested borrower. Also data is available for most public companies on PD, LGD and EL. Therefore forward-looking PD data is a reliable and appropriate credit risk measure for selecting comparable third party borrowers that have executed debt transactions.

Diagram 1 is an illustration of the divergent results obtained by using the two types of credit risk measures in determining an arm's lending margin (in other words, the credit spread over a market reference interest rate) from two different search strategies. The first search strategy uses the external credit rating of Ba/BB as a search criteria and resulted in a median lending margin of 350 bps. The second search strategy involves selecting CUFTs where the borrower's forward PD maps to the Ba/BB credit rating which resulted in a median of 285 bps. The search period is the 1Q2009, which is a particularly turbulent period for the credit markets. Note that the range of lending margins based on mapping the range of forward-looking PD to a credit rating category is tighter and lower than the range of lending margins obtained with the other search strategy of using the external credit rating (Ba/BB).

Diagram 1



While further research is required CUFTanalytics speculates that a potential reason for the divergent results in the range of lending margins is that some or most of the borrowers (and/or the loan instruments) were, from a lender's perspective, of lower credit quality than the borrowers' Ba/BB credit rating would imply. Consequently, a transfer pricing analysis using the external credit rating as a common credit risk measure to select comparables may have incorrectly priced the tested loan (debt) instrument.

Gordon Hands ([gordon.hands@CUFTanalytics.com](mailto:gordon.hands@CUFTanalytics.com)). For more information about CUFTanalytics and its services please visit our website at [www.CUFTanalytics.com](http://www.CUFTanalytics.com).