

The Pricing of Finite Maturity Corporate Coupon Bonds with Rating-Based Covenants

Sérgio Silva

Portucalense University, Portugal; Email: sergios@upt.pt

José Azevedo-Pereira

ISEG – Technical University of Lisbon, Portugal; Email: jpereira@iseg.utl.pt

Abstract

This paper models the price of finite maturity corporate coupon bonds with a rating-based covenant. Bhanot (2003) already addressed this issue, but the corresponding model embeds two features that in some way could be considered as significant limitations. In the first place, it does not take into consideration any kind of payment to the bondholders when the rating-based covenant is triggered. In the second place, and more importantly, Bhanot (2003) incorporates an inconsistency regarding the payment the bondholders are entitled to at maturity: the model considers this payment (when the firm has not previously entered in bankruptcy) to correspond always to the principal of the debt outstanding and this can only be true if the value of the debtor's assets is greater than or equal to the principal, which obviously is not always the case. In this way Bhanot's model overprices the bond. Following Bhanot and Mello (2005), we propose to overcome the former weakness considering two alternative procedures: *i*) an increase in the coupon rate or *ii*) a partial amortization of the principal. The latter limitation is addressed by explicitly modeling the possibility of a partial payment of the principal if at maturity the market value of the assets in place is not enough to allow for full repayment. The values of the equity, tax benefits, bankruptcy costs and the leveraged firm are also obtained.

JEL classification: G12, G33