

A Target Zone Model for Corporate Debt

Massimiliano Marzo
University of Bologna*

Francesco Baldi
University of Bologna[†]

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Abstract

We study the dynamic corporate structure by considering the role of commitment on firm's side. We show that if the firm can credibly commit to preserve the equity value up to a given threshold, it can afford higher level of debt than those associated to bankruptcy. Our model borrows from a well consolidated literature originated from Leland (1994, 1996), Goldstein, Ju and Leland (2001), Hackbarth, Miao, Morellec (2006), where we model a framework to analyze capital structure and credit risk in a continuous time setting. Our innovative point consists in mixing the existing framework with the Target Zone literature originated by Krugman (1991), Bertola and Caballero (1992), in the exchange rate dynamics context. We extend the traditional capital structure models to a log-normal setting. We identify the upper bound for the debt value associated to bankruptcy by adopting a different strategy based on the 'smooth pasting condition'. This new methodology allows to identify different levels of debt associated to bankruptcy, higher than the corresponding level identified in the current literature. The commitment to keep the bankruptcy value stable within a target zone, allows the firm to issue larger level of debt. This result is motivated by the fact that the company can implement several actions to maintain the firm's value, before changing its debt. If the company can successfully commit to preserve its value, the optimal level of debt can be higher. The implementation of Target Zones within capital structure is completely new in the literature and it allows to shed lights on the optimal capital structure by a different perspective. The conditions are derived by solving a system of second order differential conditions, together with the smooth pasting conditions.

JEL CLASSIFICATION: G12, G32, G333.

KEY WORDS: Dynamic Capital Structure, Optimal Debt

*Corresponding Author, Department of Management, 34, Via Capo di Lucca, 40126 Bologna Bo, Italy. Email: massimiliano.marzo@unibo.it.

[†]Department of Management, 34, Via Capo di Lucca, 40126 Bologna Bo, Italy. Email: massimiliano.marzo@unibo.it.

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