Term structure of credit spreads with learning and anticipation effects

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Abstract

In this paper we unify structural and reduced form models, and further extend Duffie and Lando (2001) to consider the relation between credit spreads and investors' information structures. In the first part of the paper, investors' information is incomplete; we show how investors should utilize spot markets information to learning asset process parameters and infer the default barrier through time. In the second part of the paper, investors' information set is enlarged to include future and derivative markets information. By way of conditioning on this extended information set, we show how to incorporate anticipative messages into our original model, which gives us a better estimation of the firm's survival probability. In the numerical simulation, our credit spreads fit very with with empirical results. This fully demonstrates that some components of credit spread can be attributed to learning and anticipation effects.

Keywords: *incomplete information, learning effect, anticipation effect, credit spread, credit risk*

1. Introduction

The models introduced in the rich literature of credit risk may be divided into two main categories: First, models in which default is based on the value of the firm are known as structural models; and second, models which don't consider the relation between default and asset value in an explicit way, but model default as a stopping time of some

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