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A perspective on credit derivatives

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Abstract

This contribution offers an explanation of credit derivatives as a group of financial instruments having a common purpose being the managing of credit exposures, and thus credit or default risk. This paper explores the links between their economic and financial manifestations and the legal bases for their widespread application. To ensure an understanding of the purposes served by each of the main types of credit derivatives, a detailed scrutiny of individual instruments is undertaken. Issues relating law and economics to trading in this type of derivative are investigated, then pricing issues and empirical evidence are considered. A summary brings together the range of features bearing upon the effective development of a market in these financial instruments.

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1. Introduction

Credit derivatives are a group of financial instruments that have as their common main purpose the managing of credit exposures, and thus credit or default risk. These financial instruments exist as financial contracts reflecting the value of the credit risk incorporated in

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each agreement between two parties. Each financial contract associated with one or other of the credit derivatives, of which there are a number, derives its value from the existence of a prior lending contract in which credit risk may be just one of some risk features. Others include foreign exchange and interest rate risks.

The credit derivative market has grown rapidly since the British Bankers Association (BBA) estimated the London market for credit derivatives to be US\$40 billion in 1996 with a global market estimated at US\$100 billion (BBA, 1996). Later, Greene et al. (1998) placed the total market outstandings at three times this amount being US\$300 billion. Notional outstandings provided by the US Office of the Comptroller of the Currency, reveal that US outstandings alone exceeded US\$400 billion in 2001, with more than 400 financial institutions now using derivatives for risk management and trading. These statistics highlight the rapid deployment and acceptance of these instruments by financial market participants.

The term “credit derivative” is a general term for a variety of financial instruments having a common purpose but not necessarily common features. Three building blocks drawn from forward agreements, swaps, and options are the bases for devising most credit derivatives. Forward agreements are based upon interpolated and implied interest rates from an existing term structure, while swaps allow the transformation, hedging and trading of fixed and floating interest exposures, while pricing usually assumes a zero net present value at the time the contracts are exchanged between the parties. An option is a contingent asset or liability whose value at any given time may be settled by the price of the underlying financial instrument, with the option value largely dictated by the underlying price volatility, contract time to maturity, and the option’s out of the moneyness.

However well understood the basis of the credit derivative, as one of several risk characteristics that may be stripped from a lending agreement, the question remains as to what purposes are served by this instrument. Any general explanation must lie in the capacity of one or more third parties to price the credit risk in the lending agreement over its maturity more effectively than the lender (Marshall, 1997; Morgan, 1997). Yet, this interpretation should be treated cautiously. For example, it may not necessarily be binding when the lending agreement is designed as a “loss leader” to attract other nonlending business. Also it is important to recognize the empirical evidence presented by authors such as Collin-Dufresne, Goldstein, and Martin (2001) who argue that other factors, such as liquidity, may override concerns over firm-specific factors, such as default risk, in terms of pricing.

Credit risk has its ultimate expression in the inability of a borrower to repay a loan with subsequent declaration of bankruptcy and no recovery of the sum lent. This polar expression of credit risk is not what credit derivative instruments are intended to deal with though any one of them will recognize the possibility of that polar outcome. Credit risk is incurred whenever there is a decline in the ability of the borrower to repay the debt. Any decline changes the prospects of a borrower being able to repay, which means an increase in credit risk. Thus, the borrower in these new circumstances could be expected to have to pay more should new funds be sought or were the old contract due for renegotiation and rollover. For the lender, the deterioration in the borrower’s perceived ability to repay will bring higher risk exposure for the same reward and an incremental reduction in the quality of the asset portfolio. Should there be a number of borrowers experiencing similar deterioration, then the lender’s asset portfolio may

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