

WHAT IS STRUCTURED FINANCE ?

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Working Paper

September 2005

Abstract

On the heels of the April downgrades of General Motors Corp. and Ford Motor Co. to non-investment grade status, the haircut unwinding of exposed CDO positions reverberated in mounting regulatory concerns about current risk measurement standards of derivatives and the impact of complex structured finance techniques on financial stability. Subsequent warnings about the resilience of credit risk transfer to financial shocks, however, hardly extended beyond indistinct assessments of derivatives. This brief article defines structured finance in order to inform a more specific debate about the regulatory challenges posed by the assembly of asset exposures and credit risk transfer in complex structured finance transactions.

Keywords: *structured finance, credit risk transfer, asset-backed securitization (ABS), securitization, mortgage-backed securitization (MBS), collateralized debt obligation (CDO), credit default swap (CDS).*

JEL Classification: *D81, G15, M20*

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On the heels of the April downgrades of General Motors Corp. and Ford Motor Co. to non-investment grade status, the haircut unwinding of exposed CDO positions reverberated in mounting regulatory concerns about current risk measurement standards of derivatives and the impact of complex structured finance techniques on financial stability. Subsequent warnings about the resilience of credit risk transfer to financial shocks, however, hardly extended beyond indistinct assessments of derivatives. This brief article defines structured finance in order to inform a more specific debate about the regulatory challenges posed by the assembly of asset exposures and credit risk transfer in complex structured finance transactions.

1 DEFINITION OF STRUCTURED FINANCE

Structured finance encompasses all advanced private and public financial arrangements that serve to efficiently refinance and hedge any profitable economic activity beyond the scope of conventional forms of on-balance sheet securities (debt, bonds, equity) in the effort to lower cost of capital and to mitigate agency costs of market impediments on liquidity. In particular, most structured investments (i) combine traditional asset classes with contingent claims, such as risk transfer derivatives and/or derivative claims on commodities, currencies or receivables from other reference assets, or (ii) replicate traditional asset classes through syntheticity. Structured finance is invoked by financial and non-financial institutions in both banking and capital markets if established forms of external finance are either (i) unavailable (or depleted) for a particular financing need, or (ii) traditional sources of funds are too expensive for issuers to mobilize sufficient fund for what would otherwise be an unattractive investment based on the issuer's desired cost of capital. Structured finance offers the issuers enormous flexibility in terms of maturity structure, security design and asset types, which allows issuers to provide enhanced return at a customized degree of diversification commensurate to an individual investor's appetite for risk. Hence, structured finance contributes to a more complete capital market by offering any mean-variance trade-off along the efficient frontier of optimal diversification at lower transaction cost. However, the increasing complexity of the structured finance market, and the ever growing range of products being made available to investors, invariably create challenges in terms of efficient assembly, management and dissemination of information.

The premier form of structured finance is capital market-based risk transfer (except loan sales, asset swaps and natural hedges through bond trading (see Fig. 1)), whose two major asset classes include *asset securitization* (which is mostly used for funding purposes) and *credit derivative* transactions (as hedging instruments) permit issuers to devise almost an infinite number of ways to combine various asset classes in order to both transfer asset risk between banks, insurance companies, other money managers and non-financial investors in order to achieve greater transformation and diversification of risk.

Securitization seeks to substitute capital market-based finance for credit finance by sponsoring financial relationships without the lending and deposit-taking capabilities of banks (*disintermediation*). The issuer raises funds by issuing certificates of ownership as pledge against existing or future cash flows from an investment pool of financial assets in the bid to increase the issuer’s liquidity position without increasing the capital base or by selling these reference assets to a SPV, which subsequently issues debt to investors to fund the purchase. Aside from being a flexible and efficient source of funding, the off-balance sheet treatment of securitization also serves (i) to reduce both economic cost of capital and regulatory minimum capital requirements as a balance sheet restructuring tool (*regulatory and economic motive*) and (ii) to diversify asset exposures (especially interest rate risk and currency risk) (Jobst, 2005b). The generation of securitized cash flows from a diversified asset portfolio represents an effective method of redistributing asset risks to investors and broader capital markets (*transformation and fragmentation of asset exposures*). As opposed to ordinary debt, a securitized contingent claim on a promised portfolio performance affords investors at low transaction costs to quickly adjust their investment holdings due to changes in personal risk sensitivity, market sentiment and/or consumption preferences.

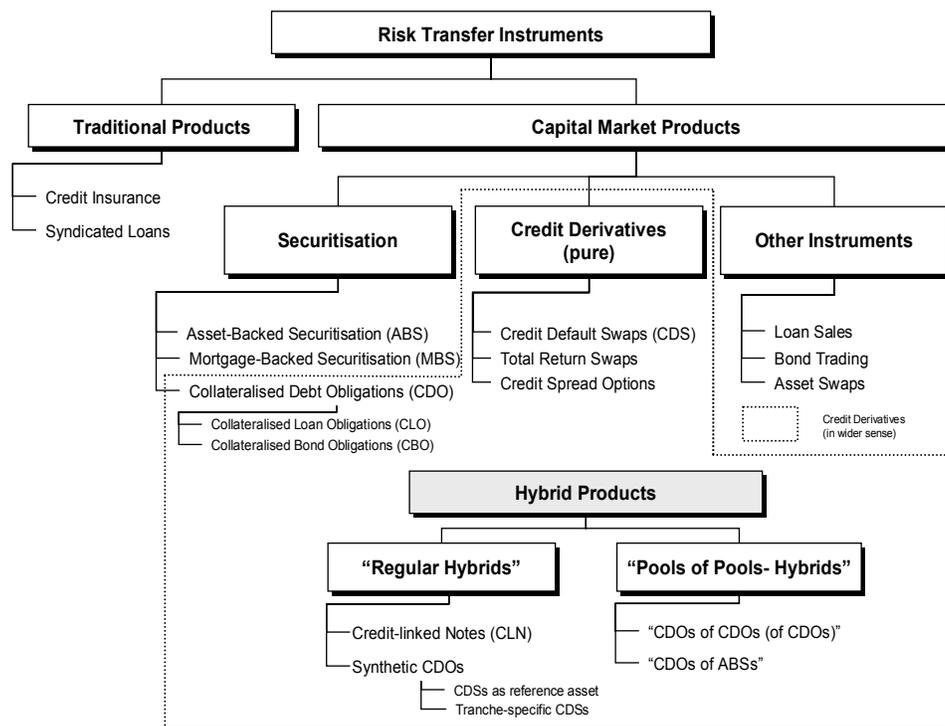


Fig. 1. Overview of risk transfer instruments (Jobst, 2005a, and Effenberger, 2003).

Credit derivatives are financial instruments that isolate and transfer credit risk. As a common working principle derivatives involve the sale of contingent credit protection for pre-defined credit events of lending transactions. In their basic concept, credit derivatives sever the link between the loan origination and

associated credit risk, but leave the original borrower-creditor relationship intact. The protection buyer of a credit derivative hedges specific credit risk in return for periodic premium payments to the protection seller, who assumes the credit exposure of a financial contract isolated from the underlying transaction.¹ The significance of credit derivatives lies less in their market share next to other derivative instruments (e.g. interest rate and foreign exchange derivatives) but in their ability to supplement traditional ways of hedging credit risk through the transfer of credit-related exposures to a third party. Other non-credit derivative based forms of credit risk transfer include credit insurance, syndicated loans, loan sales, bond trading and asset swaps. We distinguish between credit derivatives in the *narrower* and in a *wider sense* (see Fig. 1). The latter classification includes *pure credit derivatives*, such as *credit default swaps* (CDSs), *total return swaps* and *credit spread options*, as well as *hybrid products* and securitization products with credit derivative elements, such as *collateralized debt obligations* (CDOs) of bonds and loans. Some unfunded/partially funded structured finance transactions, such as *credit-linked notes* (CLNs) and *synthetic* CDOs are credit derivative-based securitization transactions² that provide refinancing through cash flow restructuring and *tranche-specific* credit risk transfer.³ These *hybrid products*, which are considered *credit derivatives in a wider sense*, usually condition the repayment of securitized debt on a defined credit event in a bilateral hedge (in the case of CLNs), the premium income generated from credit protection sold on reference assets (in the case of synthetic CDOs), or the returns from investing and/or writing credit protection on securitization transactions as constituent assets of a diversified pool of CDOs and/or ABSs (“pools of pools”).

CDOs have been the fastest growing area of structured finance. Generally, a CDO represents a form of *asset-backed securitization* (ABS), which converts a large, diversified pool of exposures into tradable capital market debt instruments (*tranches*). In a CDO structure asset managers can increase assets under management while locking in committed funds and achieving some protection from market value volatility. While *cash CDOs* are backed by a collateral of actual bonds and loans as reference assets, whose legal title is transferred to the purchaser, issuers of *synthetic CDOs* enlist wads of credit derivatives and various third-party guarantees to

¹ In a *cash-settled* CDS, the protection seller is required to make a settlement payment in the amount of the difference between the notional principal and the market price of the bond or the reduced recovery value of the defaulted bank credit. Alternatively, in what has increasingly become the market norm, in *physical settlement CDSs* the protection seller receives the reference assets against payment of their par value. Unlike credit insurance contracts, credit derivatives are negotiable and attract large secondary trading.

² This feature does not apply to plain vanilla *asset-backed securities* (ABS) and *mortgage-backed securities* (MBS).

³ Note that despite the transformation and fragmentation of credit risk through securitisation brings greater diversification within the financial system, the structural complexity arising from multi-layered security designs, diverse amortisation schedules and the state-contingent funding of synthetic credit risk transfer might obfuscate actual riskiness of these investments and inhibits provident investment. The tradability of credit risk facilitates the synthetic assembly and dynamic adjustment of credit portfolios via secondary markets, but numerous counterparty links established in the commoditisation of securitised asset risk also create systemic dependence susceptible to contagion. This prospect of leveraged investment in synthetic structures seems to be particularly troubling when investors take on more risks for yield during times of compressed spreads and rising default rates when credit cycles approach their turning-point. Moreover, the contingent liability of credit derivatives as credit protection of securitised assets requires the protection seller to put up liquidity only if a credit event occurs.

create partially funded and highly leverage investment from synthetic claims on the performance of designated credit exposures (Shepherd, 2005). CDOs involve either *cash flow* or *arbitrage* mechanisms to either fund expected principal and interest payments or expected trading and sales activity. CDOs enable issuers to achieve a broad range of financial goals, which include the off-balance sheet treatment of securitized exposures, reduced minimum regulatory capital requirements and access to alternative sources for asset funding and liquidity support. The conventional security design of CDOs assumes a typical three-tier securitization structure of junior, mezzanine and senior tranches, which concentrates expected losses in a small first loss position as equity claim, which bears the majority of the credit exposure and is frequently covered by a junior CDS, shifting most unexpected risk to larger, more senior tranches, which display distinctly different risk profiles. This risk sharing arrangement induces a leverage effect on constituent tranches, whose distinct risk-return profiles can be tailored to specific investment preferences.⁴

2 BOUNDARIES BETWEEN STRUCTURED FINANCE AND CONVENTIONAL FINANCE

The flexible nature of structured finance straddle the indistinct boundary between traditional fixed income products, debentures and equity on one hand and derivative transactions on the other hand. Notwithstanding the perceivable difficulties of defining the distinctive nature of structured finance, *functional* and *substantive* differences between structured and conventional forms of external finance seem to be most instructive in the way they guide a critical differentiation.

The following definition reflects such a proposition if we compare two financial arrangements that share the *same objective*.

- a) Investment instruments are motivated by the *same or similar financial objective* from both the issuer's and the investor's point of view, but they *differ in legal form and functional implementation*. They also might require a *different valuation* due to a varying or different transaction structure and/or security design.
- b) Investment instruments are *substantively equivalent* (i.e. they are *evaluated exactly the same* in line with an equilibrium price relation), but they *differ in legal form* and might require a *different valuation* due to a varying or different transaction structure and/or security design.

⁴ Although investors should expect the same returns for CDOs as for similar credit risk exposure in plain vanilla debt, their risk profile of CLOs tranches varies dramatically in response to changes in the valuation of the underlying (reference) asset (Jobst, 2005a).

In the first instance, pure credit derivatives are clear examples of structured products for credit risk transfer, which allow very specific and capital-market priced credit risk transfer (see Fig. 1). Credit insurance and syndicated loans share the same financial objective; however, they do not constitute an arrangement to create a new risk-return profile from existing reference assets. Another example in this vein would be the comparison of MBS and Pfandbrief-style transactions. Although both refinancing techniques convert a credit claim or a pool of claims into negotiable securities, they represent two distinct forms of covered bonds obtained from securitizing the same type of reference asset either off-balance sheet (*asset-backed securitization*) or on-balance sheet (*"Pfandbrief-style" securitization*), or even through *synthetic securitization*.

In the second case, for instance, an Islamic loan becomes a structured finance instrument whenever its formation through replication of conventional asset classes involves a contingent claim. In Islamic finance traditional fixed income instruments are replicated via more complex arrangements in order to establish compliance with the religious prohibition on both interest earnings (*riba*), the exchange of money for debt without an underlying asset transfer, and non-entrepreneurial investment. Structured finance redresses these moral impediments to conventional forms of external finance. For instance, Islamic banks use *synthetic loans* for *debt-based bond finance*, where the borrower re-purchases, or acquires the option to re-purchase, own assets at a mark-up in a sell-and-buyback transaction (on existing assets as a cost-plus sale (*murabahah*) or future assets as project finance (*istina*)). The lender can refinance the selling price and/or the indebtedness of the borrower via the issuance of commercial paper. Alternatively, the *ijarah* principle prescribes an *asset-based version of refinancing a synthetic loan*, where the lender securitizes the receivables from a temporary lease-back agreement as quasi-interest income. The debt transaction underlying each of these forms of refinancing reflects a *put-call parity*-based replication of interest income, where the lender holds the ownership (stock S) of the notional loan amount and writes a call option (C) to the borrower to acquire these funds at an agreed premium payment subject to the promise of full payment of principal and mark-up after time T (put option P). Both options have a strike price equal to the mark-up and the notional loan amount. So the lender's position at the time the synthetic loan is made is $S-C+P$, which equals the present value of principal and interest repayment of a conventional loan.

3 CONCLUSION

Against the background of rising regulatory unease about the evolution of derivative markets, we argue that a clear-cut definition of structured finance helps substantiate more viable debate about the resilience of credit risk transfer to financial shocks. Structured finance encompasses all advanced private and public financial arrangements that serve to efficiently refinance and hedge any profitable economic activity beyond the scope of conventional forms of on-balance sheet securities (debt, bonds, equity) in the effort to lower cost of capital

and to mitigate agency costs of market impediments on liquidity. Especially, the distinction of the various methods of credit risk transfer through credit derivative in a wider and narrower sense as well as securitization transactions illustrates the need for more comprehensive and creative regulatory considerations.

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