Discussion about the paper *Admissible Designs of Debt-Equity Swaps for Distressed Firms: Analysis, Limits and Applications* 
Franck Moraux and Patrick Navatte

Areski COUSIN

Université Claude Bernard Lyon 1, 
ISFA

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Admissible designs of debt-equity swaps

- As creditors may bankrupt the firm, they can design the debt equity swap so as to maximize their wealth.

- 3 parameters under the control of creditors
  - $A$: the amount of face value forgiven for equity
  - $\theta$: proportion of equity in exchange of debt
  - $\tau$: new maturity of the distressed debt

- Parameters of the debt equity swap $(A, \theta, \tau)$ such that:
  - The swap is admissible: $A$ must be equivalent to the present value of newly issued equity securities
  - The swap maximizes the gain of using a debt equity swap instead of declaring bankrupt

- Three parameters, two constraints
The more amount of debt is forgiven, the more creditors benefit from the restructuring scheme.

The probability of being reimbursed of the remaining debt also increases with the amount of debt forgiven for equity.

But the remaining debt must be supported a longer time.
Admissible designs of debt-equity swaps - possible extensions

- Capital structure as in a Black-Scholes-Merton framework
  - The firm’s asset value described by a geometric Brownian motion
  - Equity is a call option on the firm value
  - Debt is a zero coupon risky bond

- Consider a Black-Cox first passage model where new defaults can occur before maturity of the debt
  - Motivation - Eurotunnel suffers from two debt restructurings:
    - November 1997 - £8.7 billion debts, £1 billion involve in a debt-equity swap
    - June 2007 - new debt restructuring
  - Issue - Equity is an out-of-the-money option at default time
Taking into account coupon payments

- Failure in interest payments may cause default as for Eurotunnel 1997

- Debt restructuring with convertible bonds or loan participation notes? Comparison with debt-equity swaps.