Bus. 864
R. Jones / A. Theunissen
due: March 15, 2006

Homework Set 5

Basket Default Swap

Consider the following 'Canadian' basket (5 names, equally weighted):

ABITIBI-CONSOLIDATED INC (CDX.HY.4)

ALCAN INC (CDX.IG.4)

BOMBARDIER INC (CDX.IG.3)

FAIRFAX FINANCIAL HOLDINGS LTD (CDX.HY.4)

NOVA CHEMICALS CORPORATION (CDX.HY.4)

Assume:

Exponential marginal defaut time distribution function for each issuer.

Gaussian copula dependence structure across default times with a single correlation parameter, $\rho = 0.3$.

Continuously compounded risk-free rate, $r = 0.05$.

Fixed (known) recovery (fraction of par), $R = 0.4$.

Use the CDS spreads on the Bus 864 web site to determine:

1. The risk-neutral expected loss (as a percentage of par/notional) on a 5-year FTD swap.
2. The fair default swap spread (paid continuously) on the 5-year FTD swap. Assume that recovered amounts are paid at the time of default.
3. Repeat 1 and 2 for the 5^{th} to default swap.
4. The risk-neutral expected yield to maturity (continuously compounded) on a zero-coupon credit linked note referencing the 5-year FTD risk with 80% principal protection.

If you choose to do this by simualtion, generate a minimum of $2,000$ simulations.