Final Examination
GSIEF 228A– Financial Innovation and Structured Financial Products
Due 12/15/2000

Q I) 300 Points
Discuss the following first generation structured notes:

1. Plain Floating Rate Note (FRN) – Coupon=Index+Spread
2. Capped Floating Rate Note (CapFRN) – Coupon=Min(Index+Spread, Cap)
3. Floored Floating Rate Note (FFRN) – Coupon=Max(Floor, Index+Spread)
4. Collared Floating Rate Note (CFRN) – Coupon = Index+Spread subject to Cap and Floor
5. Inverse Floating Rate Note (IFRN) – Coupon = X% - Index
6. Leveraged Capped Floating Rate Note (LCFRN)—
   Coupon = Index + X if Index < STRIKE,
   = B-A*Index if Index > STRIKE
7. Superfloaters – Coupon = A*Index – B

Organize your analysis along the following attributes:

- Investor and Issuer Purposes
- Equivalent Investor Position (In terms of straight floaters and options)
- Interest Rate Risk
  - Sensitivity to parallel, twist, butterfly
  - Key rate durations
  - Sensitivity to spread changes
- Volatility Risk – Sensitivity to implied volatility
- Performance of the structure under different environment interest rate environment

Use some representative numbers to illustrate your point.

Q II) 200 Points
Briefly discuss the following steps to the structured product creation, development, and offering process:

- Identification of investor need and demand
- The idea generation and structuring process
- Risk analysis: pricing, valuing, trading, and hedging
- Legal and regulatory review and registration
- Underwriting, syndicating, and marketing

Give a simple example of a key issue for each of the steps that could significantly reduce a product's potential success.

Q III) 200 Points
Discuss the following basic credit derivatives:

- Total Rate of Return Swap
- Asset Swap
- Single Name Default Swap
- First-to-default Basket Swap

Identify the key drivers that have led to creation of the above products. Discuss your views on how banks, finance companies, money managers and corporations could use each of these instruments.

Q IV) 300 Points
As large multi-national corporations grow their need for back-up line of credit grows. In an era of increasing consolidation in the banking industry, corporations are always looking for new sources of credit lines.

Brandeis University, GSIEF 228A
Ron D'Vari, Ph.D., CFA

As a senior financial engineer in a major investment bank you are asked to devise and evaluate potential capital market solutions to enable large international investment grade companies to develop sources of back-up lines of credit away from traditional bank sources.

The objective is to create trust structures or traded OTC contracts that provide a corporation a back-up line of credit. Such a facility should have a high enough rating and liquidity to provide capital when and if the reference entity requires it.

Provide at least two solutions and discuss their merits vs. current sources of credit line.

BACKGROUND:
Typically a one-year commitment fee for an A-rated borrower is as low as 5 bps for unfunded commitment, with pricing around LIBOR +15-20 bps when the line is used. A term facility (3 to 5 years) would typically be more (about 10 bps), and a BBB borrower would pay around 15 bps fee for unfunded commitments.

Typically there are several covenants relating to debt ratings and liquidity ratios at the time of drawdown and the pricing is on a scale. It would be rare for a commitment not to be honored, especially on a 1-yr line, however additional restrictions may be added.

Additional Information:
AAA ABS Securities = Libor+10bp
Default Swap on A Entity = 25bp/year for 3 year, 35bp/year for five years.

Case: 800 Points
Managing Issuer's Risk: Asset Liability Management – General Motors Incorporated
(Page 311 of the text book)

In discussing the case address the following topics:

1) Discuss factors affecting the decision to issue fixed or floating debt
2) Different hedging tools for managing issuance risk
3) Discuss various methods to deal with hedging future issuance and how they affect the market. Discuss ways to least disrupt the market and increase investor satisfaction

4) Briefly discuss the differences between using options, futures, and swap in hedging an issuance.