

New York University
Stern School of Business

**Structured Finance
The Final Exam**

May 2004: Professor Ian Giddy

A 2-hour, open-book, open-notes exam. Calculators allowed (no laptops). 100 points.

1. Please read the question carefully, and answer it concisely. Allocate your limited time intelligently.
2. If you don't know the answer, use common sense
3. If you feel there's an ambiguity in a question, *state your assumptions explicitly*, then proceed to answer it as best you can.
4. Use pen in preference to pencil, please.

1. (10 points) Why do convertible bonds typically have call options? Why is the Sealed Air 2003 convertible considered "almost like a bond?"

2. (15 points) You are visiting Argentina, and have been asked for advice on a new investment instrument whose return is inversely related to the credit rating on a CLO that is structured to purchase loans from the major banks in Argentina, Brazil and Chile? What are the factors that rating agencies look at when rating CLOs? List them.

3. (15 points) A top-rated French insurance company recently issued a 4-year structured note with the following terms:

ISSUER:	Assurances du Sud
AMOUNT:	EUR 120 million
COUPON:	First 2 years: semi-annual EURIBOR + 0.50% p.a., paid semi-annually Last 2 years: 8.35%
PRICE:	100
MATURITY:	March 10, 2008
CALL:	Issuer may redeem the notes in full at par on March 10, 2006

FEES: 30 bp
ARRANGER: EuroCredit Limited

The crucial elements are the coupon and call clauses. First, to appeal to the investor, the issuer has agreed to pay an **above-market rate** on both the floating rate note and the fixed rate bond segments of the issue

FRN portion: .70% above normal cost
Fixed portion: .50% above normal cost

It was rumored in the market that the deal had been privately placed with the French Teachers Fixed-Income Fund, and that the issuer had swapped the deal into a floating rate, by means of a swaption that was priced at 1.20%.

Illustrate, with a diagram, how this might work. What do you estimate to be the effective cost of funds?

4. (20 points) Show, with a numerical illustration, how a bank can save on its capital requirements by securitizing its loan portfolio.

5. (40 points) Structuring an LBO's Mezzanine Financing

The management team of the data services division at Liberty Travel is considering a leveraged buyout of the data services division of their firm. For several months they have worked closely with a private equity firm on analyzing the possibilities. At last they have come up with some numbers to show the banks and potential equity investors. The idea is that they would form a new company, TravelServices, to buy the division.

The new company would issue 12 million shares with a nominal par value of \$5. The proposed purchase price of the Liberty division is \$450 million. In addition the new company would assume \$55 million worth of equipment lease obligations (this is the present value of the lease obligations). Fees are expected to run at 7% of the purchase price. Expected new capex and restructuring costs are estimated at \$51 million up front. After these investments, little or no new capital expenditures would be needed for several years.

TravelServices expects to have EBIT of \$90 million in the first year after purchase. This is predicted to grow at 6% for the first 3 years and 3% thereafter.

Because of depreciation expenses amounting to some \$30 million p.a., the company does not expect to pay any taxes for at least 4 years.

The challenge is financing the buyout. Discussions with banks suggest that for this kind of business it might be difficult to syndicate an acquisition loan unless EBIT interest coverage is at least 1.8. At this level, the cost of funds would be quite high (see table), but the prospective owners expect to be able to repay the loans within 4-5 years.

The division's managers, who would run the company, have managed to raise \$15 million among themselves to invest in the company. The remainder must be raised by the private equity firm, whose investors generally look for a 25% return and an exit plan after 5 years. They are interested in participating in the upside of the firm's performance by taking an equity or quasi-equity stake in exchange for their capital. However they also insist on seniority over the management's shareholding.

The partners have pledged that no dividends will be paid for the first 5 years. Similar companies (with little or no debt) have been able to go public at a multiple of 6x EBIT, assuming a low level of debt.

(a) What is the total cost of the deal?

(b) What is the company's debt capacity, and how much additional private equity financing is needed?

(c) What deal can you structure for the private equity firm?

(d)) What deal can you structure for the manager-owners?

For large manufacturing firms

If interest coverage ratio is

>	≤	Rating is	Spread is
	0.20	D	14.00%
0.2	0.65	C	12.70%
0.65	0.80	CC	11.50%
0.8	1.25	CCC	10.00%
1.25	1.50	B-	8.00%
1.5	1.75	B	6.50%
1.75	2.00	B+	4.75%
2	2.50	BB	3.50%
2.5	3.00	BBB	2.25%
3	4.25	A-	2.00%
4.25	5.50	A	1.80%
5.5	6.50	A+	1.50%
6.5	8.50	AA	1.00%
8.5		AAA	0.75%

For smaller and riskier firms

If interest coverage ratio is

>	≤	Rating is	Spread is
	0.50	D	14.00%
0.5	0.80	C	12.70%
0.8	1.25	CC	11.50%
1.25	1.50	CCC	10.00%
1.5	2.00	B-	8.00%
2	2.50	B	6.50%
2.5	3.00	B+	4.75%
3	3.50	BB	3.50%
3.5	4.50	BBB	2.25%
4.5	6.00	A-	2.00%
6	7.50	A	1.80%
7.5	9.50	A+	1.50%
9.5	12.50	AA	1.00%
12.5		AAA	0.75%

Note: Long term government bond rate: 6%