9. SWAPS (PART OF FUTURES CHAPTER)

1 Briefly explain the similarities and differences between a synthetic FRN based on an underlying bond created via an asset swap and one created via a credit default swap.

2 You have entered a variable principal equity swap where you will receive the total return on the S&P 500 index and pay US Libor plus 20 basis points every six months. The initial notional principal is $100 million. The settlement date of the swap is September 15, 2000 and the first payments will be made on March 15, 2001. You are given the following market information:

SEPTEMBER 15, 2000	
6-Month US Libor	6%
S&P500 Dividend Yield (365 day basis)	2%
S&P500 Index	1450

MARCH 15, 2001	
S&P500 Index	1525

Determine the net amount you will pay or receive on March 15, 2001.

3 The following discount function for the US dollar interest market is observed.

ONE-YEAR	0.977995
TWO-YEAR	0.953674
THREE-YEAR	0.924535
FOUR-YEAR	0.888487

Determine the implied "fair" rate on a three year forward start swap commencing in one year's time.

4 Determine the net cash flow from the point of view of an investor who has entered into a $100 million notional principal equity swap with a bank, where the bank pays the total return on the S+P 500 index every six months and the investor pays 6-month LIBOR. The payment date is November 15, 2004. The May 15 – November 15 period is 184 days in length. The S+P 500 index on May 15, 2004 was 900 and 6-month LIBOR was 2.5%. Assume the S+P 500 dividend yield on a 365 day basis is 1% and the final value of the S+P 500 index on November 15, 2004 is 940.