OF605 Fixed-Income Securities

Assignment 1, Due Date: 31-Jan-2024 $0.9869 = 0.009m) = \frac{D.000m + D.000m}{1 + 0.000m}$ Regarder: $\frac{0.9823}{Rate} = D.0000m = \frac{1 + 0.000m}{1 + 0.000m}$ Rate $\frac{1.25\% c.9959}{1.50\%} = D.0000m = \frac{1 + 0.000m}{1 + 0.000m}$ 1. Suppose we observe the following spot LIBOR rates: 1- D(D/1LM) 5- 275 [D10,3m)+D(0)6m), D10,9m 1m **LIBOR** +D(O)12M)] 2m1.50% = 0.01768 6m 6m 25 [0.4959+0.993+0.9863+0.9863712m 3m1.65% 1.75% 1.80% 2 (9, 12m) = 53m D(0, 9m) - 0 (0, 12 m) = 0,01834 = 0.01788 = 1.79%The market is uncollateralized. (a) What forward rate would you show for a 9×12 FRA? (0) (20) (1/68/9) = 0, 9/7 (0) $(1+1) 656 \times (0.15)$ (b) Calculate the 1y par swap rate for an interest rate swap with quarterly payment. (0.5m) = 910 (17.66) Calculate the continuously compounded zero rates R(0,3m), R(0,6m), and R(0,12m).2. Suppose the spot exchange rate for USD/SGD is 1.42, and the USD 6m LIBOR rate is 1.5%. If the 6m forward exchange rate for USD/SGD is 1.39, calculate the implied 6m interest rate (SOR) in SGD using these instruments. $F \times 0 = 1.4 \text{ } F \times 6m = 1.39 \text{ } 2 \text{ } (0.6m) = 1.16 \text{ } 1.16$ 3. Suppose you observe the following instruments in the swap market: D (0,6m) = 1+1.5%0x05 = 0.9926 1.3/0 x 0,5 [D(0,6m)+ D (D,14)] Instrument 1-0101171 (7 17 17)= 6m LIBOR 1y IRS 1.8% 0198 22 2y IRS 2.0% The market is uncollateralized, and all interest rate swaps (IRS) have semi-annual payment. = D(P/V)/T (a) What is the 1.5y tenor interest rate swap with semi-annual payment? (b) A forward starting swap with x = 0(b) A forward starting swap with $\underline{a} \ \underline{2y}$ tenor starting at $t=\underline{1y}$ has the following cashflows: D(0,2,54) = D(0,24)+D(0,34) 27 D (D)24)= 0,9609 Pay Rec Time (y)D w. 1.541= 0.97 16 1.5 Par Swap Rate 6m LIBOR 2, 25 / x a 5 x [D (0,6m) + D to 14/+ 2.0 Par Swap Rate 6m LIBOR Dloshey) +0 10,24) + 010, 254 H 6m LIBOR 2.5 Par Swap Rate 1- D (0)/5y) 6m LIBOR DLF, 3417 3.0 Par Swap Rate bitx1 0(0,6m)+ 010, 18)+010,154,1 = 1- D 16, 54)

What is the par swap rate for this forward starting swap?

0,02171 => 2178%

0.7 x 7 10 10,1,5 y + D 16,24) + D 10,257 + D 10,1/1 D / 0 34) = 0.9406

D B191-15 (D BY)

27D (0,254) = 0.9507

- 193%