SIMON FRASER UNIVERSITY

Midterm Exam

BUS 418 01-I
International Financial Management

Rules for Submitting Assignments: Answers to questions are to be typed, single spaced, of length no more than 1 page for each of the four questions selected, with 1" margins and type point not less than 12. (This exam is typed in 11 point.) Violations will be subject to deductions. Assignment is due in class on Thurs., Apr.1.

Answer all parts each of the four questions (25 points each):

1.a) Explain the possible motivations for using currency swaps, being sure to identify the gains to be realized by both counterparties to the swap. Also, be sure to discuss whether each of these potential rationales is consistent with the rapid growth in currency swap trading in the last decade.

b) Explain the relationship between a N-period fully hedged borrowing and a N-period fixed-to-fixed currency swap (N > 1)? (Be sure that your answer examines the transactions underlying the N-period hedged borrowing and compare cash flows with the currency swap.) Under what conditions will a fully hedged borrowing be preferred to a currency swap?

2.a) Explain the arbitrage underlying the forward-forward covered interest parity theorem. What assumptions are being made about the underlying securities? Explain how the forward-forward arbitrage relates to an arbitrage between a N period and T period foreign exchange swap?

b) Will covered interest parity hold for all types of money market securities? How does covered interest arbitrage differ for money market securities and securities with greater than one year to maturity?

3.a) On Feb 19, 2001, the bid/offers for ¥/US$ and C$/US$ spot to six month exchange rates were:

Maturity	¥/US$ Bid	¥/US$ Offer	C$/US$ Bid	C$/US$ Offer
Spot	115.94	116.04	1.5342	1.5352
3 month	114.54	114.64	1.5336	1.5346
6 month	113.17	113.27	1.5330	1.5340

Calculate bid/offers for the associated ¥$/C$ foreign exchange rate. Given the information about LIBOR and LIBID, also calculate the implied bid/offer for the interest rates which would be consistent with covered interest parity.

b) On Feb. 19, 2001, the spot and <u>one to five year</u> forward rates for the Canadian dollar/US dollar exchange rate were $1.5347, 1.5320, 1.5280, 1.5233, 1.5176 and $1.5119 and the US dollar/EuroFX exchange rate were 0.9218, 0.9271, 0.9343, 0.9390, 0.9467, and 0.9390. Using interest rate information provided in the attached Table derive the "arbitrage free" (i.e., consistent with long term CIP) term structure of spot interest rates out to 5 years for zero coupon Euro FX and US$ instruments?

4. Derive the profit functions for a one-to-one currency spread, a tailed currency spread, and a currency

tandem. What factors determine the profitability of these three types of spreads? When will the profit for a one-to-one spread be approximately the same as a tailed spread?

CANADIAN BONDS

Provided by RBC Dominion Securities

Selected quotations, with changes since the previous day, on actively traded bond issues yesterday. Yields are calculated to full maturity. Price is the final bid-side price as of 5 pm yesterday.

Issuer	Coupon	Maturity	Price	Yield	Price $ Chg
GOVERNMENT OF CANADA					
Canada	8.500	Apr 01/02	103.75	4.99	0.01
Canada	10.000	May 01/02	105.14	4.98	0.01
Canada	5.750	Jun 01/02	100.98	5.01	0.04
Canada	5.500	Sep 01/02	100.67	5.04	0.05
Canada	6.000	Dec 01/02	111.58	5.05	0.05
Canada	11.250	Dec 15/02	110.35	5.09	0.02
Canada	11.750	Feb 01/03	112.16	5.11	0.05
Canada	5.750	Jun 01/03	101.42	5.08	0.06
Canada	7.250	Jun 01/03	104.60	5.08	0.06
Canada	5.250	Sep 01/03	100.25	5.14	0.07
Canada	7.500	Dec 01/03	105.96	5.17	0.06
Canada	13.250	Feb 01/04	117.54	5.24	0.07
Canada	6.500	Jun 01/04	103.73	5.21	0.05
Canada	5.000	Sep 01/04	99.23	5.24	0.05
Canada	9.000	Dec 01/04	112.58	5.28	0.05
Canada	12.000	Mar 01/05	123.84	5.34	0.05
Canada	6.500	Sep 01/05	103.23	5.29	0.05
Canada	8.750	Dec 01/05	114.28	5.34	0.06
Canada	5.750	Sep 01/06	101.99	5.33	0.06
Canada	14.000	Oct 01/06	141.02	5.42	0.05
Canada	7.000	Dec 01/06	107.96	5.38	0.05
Canada	7.250	Jun 01/07	109.63	5.41	0.05
Canada	10.000	Jun 01/08	126.37	5.46	-0.01
Canada	6.000	Jun 01/08	103.25	5.45	-0.01
Canada	5.500	Jun 01/09	100.16	5.47	-0.05
Canada	9.500	Jun 01/10	128.63	5.51	-0.09
Canada	5.500	Jun 01/10	100.00	5.50	-0.07
Canada	9.000	Mar 01/11	126.05	5.57	-0.11
Canada	6.000	Jun 01/11	103.11	5.52	-0.09
Canada	10.250	Mar 15/14	141.58	5.60	-0.23
Canada	11.250	Jun 01/15	153.73	5.78	-0.26
Canada	9.750	Jun 01/21	145.56	5.85	-0.14
Canada	8.000	Jun 01/23	127.34	5.84	-0.14
Canada	9.000	Jun 01/25	140.23	5.87	-0.15
Canada	8.000	Jun 01/27	129.17	5.81	-0.21
Canada	5.750	Jun 01/29	100.35	5.72	0.35
CMHC	5.000	Jun 01/04	98.99	5.14	0.06
CMHC	5.750	Dec 01/04	101.18	5.40	0.05
CMHC	6.250	Dec 01/05	103.71	5.47	0.06
Exp Dev	5.500	Jun 18/04	100.67	5.34	0.06
PROVINCIAL					
Alberta	8.250	Mar 01/01	100.91	6.07	0.00
Alberta	6.375	Jun 01/04	103.11	5.31	0.05
B C	9.300	Jun 20/02	103.30	5.12	0.04
B C	7.750	Jun 16/03	105.44	5.22	0.07
B C	5.250	Dec 01/06	98.35	5.58	0.05
B C	6.000	Jun 09/08	101.36	5.77	0.01
B C	6.375	Aug 23/10	100.58	5.89	-0.32
B C	9.500	Jan 09/12	127.45	6.02	-0.31
B C	8.500	Aug 23/13	121.24	6.05	-0.33
B C	6.150	Nov 19/27	98.77	6.28	-0.05
B C	5.700	Jun 18/29	92.59	6.26	-0.01
B C	6.350	Jun 18/31	101.33	6.25	-0.01
B C Mun Fin	7.750	Dec 01/05	108.80	5.61	0.00
B C Mun Fin	5.500	Mar 24/08	97.98	5.85	0.01
Hydro Quebec	5.500	May 15/03	100.55	5.23	0.10
Hydro Quebec	7.000	Jun 01/04	104.66	5.42	0.04
Hydro Quebec	5.000	Feb 15/11	103.38	6.05	-0.15
Hydro Quebec	11.250	Jul 16/12	133.45	6.13	0.15
Hydro Quebec	9.625	Jul 15/22	136.13	6.48	-0.35
Hydro Quebec	6.000	Aug 15/31	94.30	6.44	0.30
Manitoba	7.875	Apr 07/03	105.22	5.24	0.06
Manitoba	5.750	Jun 02/08	98.79	5.78	0.01
Manitoba	7.750	Dec 22/25	117.35	6.35	-0.02
New Brunswick	8.000	Mar 17/03	105.31	5.25	0.06
New Brunswick	5.700	Jun 02/08	99.24	5.83	0.01
New Brunswick	6.000	Dec 27/17	97.91	6.29	0.17
Newfoundland	6.150	Apr 17/28	95.42	6.51	-0.02
Nova Scotia	5.250	Jun 02/03	99.90	5.29	0.02
Nova Scotia	6.600	Jun 01/27	101.28	6.50	-0.05
Ontario	8.000	Mar 11/03	105.36	5.21	0.06
Ontario	7.750	Dec 08/03	106.28	5.38	0.07
Ontario	4.875	Jun 02/04	98.47	5.29	0.06
Ontario	8.000	Sep 15/06	113.43	5.43	0.06
Ontario	6.250	Mar 08/05	102.40	5.46	0.06
Ontario	7.500	Jan 19/06	108.46	5.51	0.05
Ontario	6.125	Sep 12/07	103.00	5.64	0.06
Ontario	5.700	Dec 01/08	99.86	5.73	0.01
Ontario	6.200	Nov 19/09	102.54	5.82	-0.02
Ontario	6.100	Nov 19/10	101.79	5.87	-0.02
Ontario	7.600	Jun 02/27	117.33	6.25	-0.06
Ontario	6.500	Mar 08/29	103.63	6.23	-0.01
Ontario Hyd	8.625	Feb 06/02	103.37	5.09	0.04
Ontario Hyd	9.000	Jun 24/02	104.59	5.09	0.06
Ontario Hyd	5.375	Jun 02/03	100.36	5.19	0.07
Ontario Hyd	7.750	Nov 03/05	109.08	5.51	0.08
Ontario Hyd	5.600	Jun 02/08	99.14	5.74	0.01
Ontario Hyd	8.250	Jun 22/26	124.79	6.28	-0.02
Quebec	5.250	Apr 01/02	100.15	5.16	0.00
Quebec	7.500	Dec 01/03	105.52	5.33	0.09
Quebec	6.500	Dec 01/05	103.78	5.68	0.05
Quebec	6.500	Oct 01/07	103.98	5.78	0.15
Quebec	11.000	Apr 01/09	131.79	6.00	-0.10
Quebec	5.500	Jun 01/09	96.89	5.99	-0.06
Quebec	6.250	Dec 01/10	101.53	6.04	-0.04
Quebec	8.500	Apr 01/26	125.20	6.46	0.04
Quebec	6.000	Oct 01/29	94.75	6.43	-0.03
Quebec	6.250	Jun 01/32	97.40	6.44	0.00
Saskatchewan	6.125	Oct 10/01	100.53	5.25	0.03
Saskatchewan	5.500	Jun 02/08	98.24	5.80	0.01
Saskatchewan	8.750	May 30/25	129.77	6.43	0.07
Toronto -Met	6.100	Aug 15/07	101.82	5.79	0.09
Toronto -Met	6.100	Dec 12/17	98.74	6.22	0.17
CORPORATE					
AGT Limited	8.800	Sep 22/25	100.25	8.77	-0.11
Air Canada	6.750	Feb 02/04	94.00	9.11	1.00
Associates	5.400	Sep 04/01	100.00	5.40	1.03
Avco Fin	5.750	Jun 02/03	100.60	5.75	1.58
Bank Of Mont	7.000	Jan 28/10	105.88	6.16	-0.16
Bank Of N S	5.400	Apr 01/03	100.02	5.18	0.36
Bank Of N S	6.250	Jul 16/07	101.85	6.05	0.05
Bell Canada	6.250	Dec 01/03	101.34	5.72	0.07
Bell Canada	6.500	May 09/05	101.77	6.03	0.06
Can Cred Tst	5.625	Mar 24/05	98.53	5.76	0.05
Cards Trust	5.510	Jun 21/03	100.31	5.36	0.05
CSH Pacific	5.850	Mar 30/09	99.11	5.97	-0.05
Clearnet	3.000	May 15/08	79.90	9.57	0.00
Coca-Cola	5.650	Mar 17/04	99.37	5.88	0.05
DaimCCFin	6.440	Apr 03/02	100.74	5.74	0.05
DaimCCFin	6.600	Jun 13/03	100.40	6.36	0.07
Domtar Inc	10.000	Apr 15/11	112.97	8.18	-0.07
Ford Credit	5.750	Dec 01/03	98.77	6.22	0.07
Ford Credit	6.650	Jun 16/05	100.25	6.58	0.06
Genesis Trus	6.383	Feb 15/05	104.37	5.63	0.06
Grtr TTO Air	5.400	Dec 03/03	100.36	5.23	0.06
Grtr TTO Air	5.950	Dec 03/07	99.84	5.97	0.05
Grtr TTO Air	5.100	Jul 19/10	103.29	6.24	-0.06
Grtr TTO Air	5.450	Dec 03/27	94.46	6.91	-0.19
Grtr TTO Air	6.450	Jul 30/29	94.37	6.90	-0.15
Grtr TTO Air	7.050	Jun 12/30	101.81	6.30	-0.21
Gtr Trans	6.200	Jun 01/07	95.93	7.31	0.05
Gulf Can Res	6.450	Oct 01/07	95.82	7.06	0.05
HydroOne	6.940	Jun 03/05	104.73	5.68	0.06
HydroOne	7.150	Jun 03/10	107.17	6.12	-0.08
HydroOne	7.350	Jun 03/30	108.19	6.71	-0.21
MBTB	5.625	Jun 29/05	98.46	5.86	-0.02
Interpipe Plo	7.300	Feb 15/24	112.12	7.18	-0.17
Legacy	5.930	Nov 15/03	99.89	5.49	0.38
Loblaws Co	6.650	Nov 08/27	98.43	6.71	-0.19
MerrillCanFin	5.300	Nov 18/02	101.30	5.14	0.06
MBIT - Air	5.150	Jun 30/19	97.30	5.93	-0.11
Morguard Ret	6.700	Oct 09/07	93.37	7.31	0.05
Mstr Cr Trus	5.760	Aug 21/03	100.79	5.37	0.06
Mstr Cr Trus	6.150	Dec 21/04	101.86	5.66	0.05
Nav Canada	7.560	Mar 01/27	111.38	6.64	-0.25
Nexen	6.300	Jun 02/08	95.76	7.05	0.00
Oxford	6.860	Jul 21/04	96.38	8.11	0.06
Renaissance	6.850	Feb 06/07	99.52	6.91	0.05
Rogers Cable	8.750	Jul 15/07	100.00	8.75	0.30
Rogers Cant	10.500	Jun 01/06	108.50	8.46	0.30
Royal Bank	5.400	Apr 07/03	100.19	5.30	0.06
Royal Bank	6.400	Aug 15/05	100.66	5.72	0.06
Royal Bank	6.750	Jun 04/07	103.82	6.01	0.18
Royal Bank	6.100	Jan 22/08	100.23	6.05	3.12
Royal Bank	7.100	Jan 25/10	105.37	6.30	-0.06
Sask Wheat	6.600	Jul 18/07	74.30	12.64	2.60
SNC Lavalin	7.150	Sep 30/11	98.51	7.32	-0.35
T D Bank	5.600	Apr 14/05	100.17	5.73	0.36
T D Bank	6.550	Jul 31/07	102.38	6.06	0.25
Trizec Hahn	7.950	Jun 01/07	97.79	8.41	0.04
Union Gas	8.650	Nov 10/25	116.54	7.21	-0.11
Westcoast Gas	7.450	Feb 09/04	104.45	5.62	0.07
Westcoast Ene	6.750	Dec 15/27	94.84	7.26	-0.19
York Recvr	5.670	Apr 23/01	100.49	5.22	0.06
Real Return	4.250	Dec 01/21	117.34	3.18	-0.23
Real Return	4.250	Dec 01/26	115.75	3.37	-0.21
Real Return	4.000	Dec 01/31	112.15	3.36	-0.20

RBC DS Indexes

Index	Level	Daily Total Return % Chg	Daily Price Return % Chg	MTD Total Return % Chg
Market	355.48	0.01	-0.01	-0.19
Short	304.59	0.07	0.05	-0.17
Intermed	461.54	0.02	0.00	-0.15
Long	437.50	-0.10	0.12	0.04
Govts	354.17	0.01	-0.01	-0.20
Canadas	344.17	0.00	-0.02	-0.24
Provs	378.59	0.01	0.01	-0.00
Munis	185.97	0.01	0.02	-0.24
Corps	376.14	0.03	0.00	-0.20

Scotia Capital Bond Indices

Index	Close	% chg	Yield	Chg	52 wk High	52 wk Low
Short	162.44	-0.01	5.795	0.04	161.77	117.34
Mid	474.11	-0.15	5.497	0.05	432.56	384.34
Long	583.37	-0.65	6.286	0.06	571.35	466.36
Universe	427.54	-0.11	5.745	0.05	426.71	388.16

Benchmarks

Issuer	Coupon	Maturity	Price	Yield	$ chg
U.S. Treasury	5.00	Feb/11	98 21/32	5.17	-4/32
British gilt	5.75	Dec/09	108.41	4.56	-0.26
German	5.25	Oct/21	101.05	4.84	-0.06
Japan #221	1.5	Mar/11	100.05	1.490	+0.06

ING

Canadian yields

U.S. yields

Supplied by Royal Bank of Canada. Indicative wholesale late afternoon rates.

Canadian	Latest	Prev day	Week ago	4 wks ago	U.S.	Latest	Prev day	Week ago	4 wks ago
T-Bills									
1-month	5.15	5.16	5.14	5.18	1-month	NA	4.90	4.94	5.0
3-month	5.04	5.07	5.11	5.22	3-month	4.83	4.83	4.94	5.1
6-month	4.92	4.94	4.96	5.11	6-month	4.75	4.75	4.77	4.8
1-year	4.90	4.93	4.90	5.08	1-year	4.59	4.59	4.53	4.5
Bonds					**Bonds**				
2-year	4.98	4.98	4.93	5.05	2-year	4.71	4.71	4.67	4.75
5-year	5.21	5.23	5.17	5.25	5-year	4.90	4.92	4.85	4.85
7-year	5.39	5.40	5.34	5.43	7-year	5.08	5.09	5.04	5.14
10-year	5.44	5.46	5.39	5.46	10-year	5.31	5.31	5.25	5.2
30-year	5.71	5.70	5.65	5.74	30-year	5.45	5.46	5.43	5.61
Banker's acceptances (ask price)					**Commercial paper**				
1-month	5.33	5.36	5.42	5.51	1-month	5.44	5.44	5.41	5.5
3-month	5.16	5.16	5.19	5.30	3-month	5.18	5.18	5.21	5.4
6-month	4.97	5.08	4.99	5.30	6-month	5.25	5.25	5.28	5.5
3-mth forward rate agreement					**3-mth forward rate agreement**				
3-month	4.84	4.89	4.86	5.17	3-month	5.72	5.72	5.72	5.7
6-month	4.76	4.83	4.74	4.91	6-month	5.60	5.60	5.60	5.6
9-month	4.80	4.91	4.83	4.92	9-month	5.77	5.77	5.77	5.7

International

Supplied by Royal Bank of Canada.

Euro-deposit rates (bid)

		Latest	Prev day	Wk ago	4 wks ago
US$	Overnight	5.49	5.43	5.37	5.46
	1-month	5.46	5.40	5.43	5.63
	3-month	5.29	5.29	5.29	5.46
	6-month	5.15	5.18	5.23	5.31
C$	3-month	5.16	5.10	5.14	5.34
Euro	3-month	4.73	4.70	4.66	4.70
DM	3-month	4.72	4.70	4.66	4.78
¥	3-month	0.32	0.34	0.37	0.39
£	3-month	5.51	5.62	5.53	5.73

London interbank offer rate US$

	Latest	Prev day	Wk ago	4 wks ago
1-month	5.50	5.60	5.56	5.75
3-month	5.41	5.41	5.41	5.60
6-month	5.27	5.28	5.25	5.43

Bank rates

Canada		U.S.	
Bank of Can.	5.75	Discount	5.00
O/N Mkt Fin Rate	5.51	Prime	8.50
Prime	7.25	Fed Funds	5.50
Call Loan Ave.	5.50		

Forward exchange rates

Supplied by Royal Bank of Canada. Indicative wholesale late afternoon rates. * Inverted

Per US$	Spot	1-mo	3-mo	6-mo	1-yr	2-yr	3-yr	4-yr	5-yr
Canada $	1.5347	1.5345	1.5341	1.5335	1.5320	1.5280	1.5233	1.5176	1.51
euro*	0.9218	0.9222	0.9234	0.9242	0.9171	0.9341	0.9390	0.9467	0.939
Japan yen	115.99	115.53	114.59	113.77	110.56	105.24	99.89	94.73	90.1
DMark	2.1219	2.1208	2.1194	2.1166	2.1109	NA	NA	NA	NA
UK pound*	1.4499	1.4458	1.4449	1.4435	1.4420	1.4510	NA	NA	NA
Per C$									
US $	0.6516	0.6517	0.6519	0.6521	0.6527	0.6545	0.6565	0.6589	0.6614
euro*	1.4146	1.4151	1.4166	1.4172	1.4202	1.4275	1.4303	1.4366	1.4196
Japan yen	75.58	75.28	74.70	73.83	72.17	68.87	65.57	62.46	59.5
DMark	1.3826	1.3821	1.3811	1.3802	1.3774	NA	NA	NA	NA
UK pound*	2.2190	2.2185	2.2166	2.2136	2.2091	2.2154	NA	NA	NA

COMPANY MEETINGS