CDS Trade Parameters & Price

BuyOrSellProtection	BUY	
BuySelIndicator, φ	1	
Notional, N	10,000,000	
HazardRate ¹ , \(\lambda^{Domestic CCY}\)	2.2947%	See Footnote 1
RecoveryRate, R	25.00%	Spread (bps)
CreditSpread, s	1.0000%	100.00
PremiumFrequency	QUARTERLY	
PremiumYearFraction, Δt	0.2500	
Maturity, years	5.0000	
ZeroRate ² , z	14.00%	See footnote 2

Quanto Parameters

FX	Jump on Default, J _{FX}	-40.00%
Co	orrleation, p _(C,FX)	-0.25
Cr	edit Volatility, σ _c	25.00%
	Volatility, σ _{EX}	10.00%
На	azardRate, λ ^{Quanto CCY}	1.3553%

Lambda Adjustment -0.9394%

$$\lambda^{Quanto}(t) = \; \left(\; 1 + J_{FX} \right) \, \left(1 + \frac{1}{2} \; \varrho_{C,FX} \; \sigma_{C} \; \sigma_{FX} \; t \; \right) \lambda^{Domestic}(t)$$

Present Value (PV)	Without Adj	With Adj	+/-
CreditDefaultSwap	242,273	5,648	-236,626
PremiumLeg	-335,060	-342,377	-7,316
AccruedInterest	-964	-581	383
ProtectionLeg	578,297	348,605	-229,692

Par CDS Rate	Without Adj	With Adj	+/-	Quanto
Par CDS Rate, p	1.7231%	1.0165%	-0.7066%	70.66
ProtectionPV - AccruedInterest	-577,334	-348,024	229,309	
RiskyFixedAnnuity	-33,506,024	-34,237,674	-731,650	

Footnote

¹ Hazard rates are implied from credit models, approximately Hazard Rate = Par CDS Rate / (1 - Recovery Rate

² Zero rates are implied from yield curve models, approximately **Zero Rate = - In(Discount Factor at Maturity)**,

What-If Analysis

Quanto Basis

FX Jump on Default

	70.66	0.00%	-5.00%	-10.00%	-20.00%	-30.00%	-40.00%	-50.00%
	1.00	-10.80	-1.62	7.56	25.91	44.25	62.58	80.89
	0.75	-8.10	0.94	9.99	28.07	46.14	64.19	82.24
_	0.50	-5.40	3.51	12.42	30.23	48.02	65.81	83.58
Correlation	0.25	-2.70	6.07	14.85	32.38	49.91	67.43	84.93
e a	0.00	0.00	8.64	17.28	34.54	51.80	69.04	86.28
ē	-0.25	2.70	11.20	19.70	36.70	53.68	70.66	87.62
0	-0.50	5.40	13.77	22.13	38.86	55.57	72.27	88.97
	-0.75	8.10	16.33	24.56	41.01	57.46	73.89	90.32
	-1.00	10.80	18.89	26.99	43.17	59.34	75.51	91.66

Basis

e) / TimeToMaturityInYears

... What-If Analysis

					Domestic
Time, T	Notional, N	CreditSpread, s	YearFraction, δt	Coupon	P(Survive), Q(T)
0.25	-10,000,000	1.0000%	0.2500	-25,000	0.994280
0.50	-10,000,000	1.0000%	0.2500	-25,000	0.988592
0.75	-10,000,000	1.0000%	0.2500	-25,000	0.982937
1.00	-10,000,000	1.0000%	0.2500	-25,000	0.977315
1.25	-10,000,000	1.0000%	0.2500	-25,000	0.971724
1.50	-10,000,000	1.0000%	0.2500	-25,000	0.966166
1.75	-10,000,000	1.0000%	0.2500	-25,000	0.960639
2.00	-10,000,000	1.0000%	0.2500	-25,000	0.955144
2.25	-10,000,000	1.0000%	0.2500	-25,000	0.949680
2.50	-10,000,000	1.0000%	0.2500	-25,000	0.944248
2.75	-10,000,000	1.0000%	0.2500	-25,000	0.938846
3.00	-10,000,000	1.0000%	0.2500	-25,000	0.933476
3.25	-10,000,000	1.0000%	0.2500	-25,000	0.928136
3.50	-10,000,000	1.0000%	0.2500	-25,000	0.922827
3.75	-10,000,000	1.0000%	0.2500	-25,000	0.917548
4.00	-10,000,000	1.0000%	0.2500	-25,000	0.912300
4.25	-10,000,000	1.0000%	0.2500	-25,000	0.907081
4.50	-10,000,000	1.0000%	0.2500	-25,000	0.901892
4.75	-10,000,000	1.0000%	0.2500	-25,000	0.896733
5.00	-10,000,000	1.0000%	0.2500	-25,000	0.891604
5.25	-	-	-	-	-
5.50	-	-	-	-	-
5.75	-	-	-	-	-
6.00	-	-	-	-	-
6.25	-		-	-	-
6.50	-	-	-	-	-
6.75	-	-	-	-	-
7.00	-	-	-	-	-
7.25	-	-	-	-	-
7.50	-	-	-	-	-
7.75	-	-	-	-	-
8.00	-	-	-	-	-
8.25	-	-	-	-	-
8.50	-	-	-	-	-
8.75	-	-	-	-	-
9.00	-	-	-	-	-
9.25	-	-	-	-	-
9.50	-	-	-	-	-
9.75	-	-	-	-	-
10.00	-	-	-	-	-
10.25	-	-	-	-	-
10.50	-	-	-	-	-

O			

Quanto			
P(Survive), Q(T)	DiscFact, P(t,T)	Domestic PV	Quanto PV
0.996618	0.965605	-24,002	-24,058
0.993246	0.932394	-23,044	-23,152
0.989887	0.900325	-22,124	-22,280
0.986539	0.869358	-21,241	-21,441
0.983202	0.839457	-20,393	-20,634
0.979876	0.810584	-19,579	-19,857
0.976561	0.782705	-18,797	-19,109
0.973258	0.755784	-18,047	-18,389
0.969966	0.729789	-17,327	-17,697
0.966685	0.704688	-16,635	-17,030
0.963415	0.680451	-15,971	-16,389
0.960157	0.657047	-15,333	-15,772
0.956909	0.634448	-14,721	-15,178
0.953672	0.612626	-14,134	-14,606
0.950446	0.591555	-13,570	-14,056
0.947232	0.571209	-13,028	-13,527
0.944028	0.551563	-12,508	-13,017
0.940834	0.532592	-12.009	-12,527
0.937652	0.514274	-11,529	-12,055
0.934480	0.496585	-11,069	-11,601
-	-	-	-
-	-	-	-
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-	-	-	-
-	-	-	-
-	-	-	-

PremiumLegTotalPV -335,060 -342,377 Domestic Quanto

... Premium Leg

					Domestic
Time, T	Notional, N	CreditSpread, s	YearFraction, δt	Accrued Interest	P(Default), Q(t)λ(t)
0.250	-10,000,000	1.0000%	0.1250	-12,500	0.005720
0.500	-10,000,000	1.0000%	0.1250	-12,500	0.005688
0.750	-10,000,000	1.0000%	0.1250	-12,500	0.005655
1.000	-10,000,000	1.0000%	0.1250	-12,500	0.005623
1.250	-10,000,000	1.0000%	0.1250	-12,500	0.005590
1.500	-10,000,000	1.0000%	0.1250	-12,500	0.005559
1.750	-10,000,000	1.0000%	0.1250	-12,500	0.005527
2.000	-10,000,000	1.0000%	0.1250	-12,500	0.005495
2.250	-10,000,000	1.0000%	0.1250	-12,500	0.005464
2.500	-10,000,000	1.0000%	0.1250	-12,500	0.005432
2.750	-10,000,000	1.0000%	0.1250	-12,500	0.005401
3.000	-10,000,000	1.0000%	0.1250	-12,500	0.005370
3.250	-10,000,000	1.0000%	0.1250	-12,500	0.005340
3.500	-10,000,000	1.0000%	0.1250	-12,500	0.005309
3.750	-10,000,000	1.0000%	0.1250	-12,500	0.005279
4.000	-10,000,000	1.0000%	0.1250	-12,500	0.005249
4.250	-10,000,000	1.0000%	0.1250	-12,500	0.005219
4.500	-10,000,000	1.0000%	0.1250	-12,500	0.005189
4.750	-10,000,000	1.0000%	0.1250	-12,500	0.005159
5.000	-10,000,000	1.0000%	0.1250	-12,500	0.005130
5.250		-	-	-	
5.500	-	-	-	-	-
5.750	-	-	-	-	-
6.000	-	-	-	-	
6.250	-	-	-	-	
6.500	-	-	-	-	
6.750	-	-	-	-	-
7.000	-	-	-	-	-
7.250	-	-	-	-	-
7.500	-	-	-	-	-
7.750	-	-	-	-	-
8.000	-	-	-	-	-
8.250	-	-	-	-	-
8.500	-	-	-	-	-
8.750	-	-	-	-	-
9.000	-	-	-	-	
9.250	-	-	-	-	-
9.500	-	-	-	-	-
9.750	-	-	-	-	-
10.000	-	-	-	-	-
10.250	-	-	-	-	-
10.500	-	-	-	-	

Quanto

Quanto			
$P(Default), Q(t)\lambda(t)$	DiscFact, P(t,T)	Domestic PV	Quanto PV
0.003382	0.965605	-69	-41
0.003371	0.932394	-66	-39
0.003360	0.900325	-64	-38
0.003348	0.869358	-61	-36
0.003337	0.839457	-59	-35
0.003326	0.810584	-56	-34
0.003314	0.782705	-54	-32
0.003303	0.755784	-52	-31
0.003292	0.729789	-50	-30
0.003281	0.704688	-48	-29
0.003270	0.680451	-46	-28
0.003259	0.657047	-44	-27
0.003248	0.634448	-42	-26
0.003237	0.612626	-41	-25
0.003226	0.591555	-39	-24
0.003215	0.571209	-37	-23
0.003204	0.551563	-36	-22
0.003193	0.532592	-35	-21
0.003182	0.514274	-33	-20
0.003172	0.496585	-32	-20
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-	-	-	-

AccruedInterestTotalPV

-964	-581	
Domestic	Quanto	

... Accrued Interest

			Domestic	Quanto
Time, T	Notional, N	LossGivenDefault, LGD	P(Default), Q(t)\(\lambda(t)	P(Default), Q(t)λ(t)
0.250	10,000,000	7,500,000	0.005720	0.003382
0.500	10,000,000	7,500,000	0.005688	0.003371
0.750	10,000,000	7,500,000	0.005655	0.003360
1.000	10,000,000	7,500,000	0.005623	0.003348
1.250	10,000,000	7,500,000	0.005590	0.003337
1.500	10,000,000	7,500,000	0.005559	0.003326
1.750	10,000,000	7,500,000	0.005527	0.003314
2.000	10,000,000	7,500,000	0.005495	0.003303
2.250	10,000,000	7,500,000	0.005464	0.003292
2.500	10,000,000	7,500,000	0.005432	0.003281
2.750	10,000,000	7,500,000	0.005401	0.003270
3.000	10,000,000	7,500,000	0.005370	0.003259
3.250	10,000,000	7,500,000	0.005340	0.003248
3.500	10,000,000	7,500,000	0.005309	0.003237
3.750	10,000,000	7,500,000	0.005279	0.003226
4.000	10,000,000	7,500,000	0.005249	0.003215
4.250	10,000,000	7,500,000	0.005219	0.003204
4.500	10,000,000	7,500,000	0.005189	0.003193
4.750	10,000,000	7,500,000	0.005159	0.003182
5.000	10,000,000	7,500,000	0.005130	0.003172
5.250	-	-	-	-
5.500	-	-	-	-
5.750	-	-	-	-
6.000	-	-	-	-
6.250	-	-	-	-
6.500	-	-	-	-
6.750	-	-	-	-
7.000	-	-	-	-
7.250	-	-	-	-
7.500	-	-	-	-
7.750	-	-	-	-
8.000	-	-	-	-
8.250	-	-	-	-
8.500	-	-	-	-
8.750	-	-	-	-
9.000	-	-	-	-
9.250	-	-	-	-
9.500	-	-	-	-
9.750	-	-	-	-
10.000	-	-	-	-
10.250	-	-	-	-
10.500	-	-	-	-

... Protection Leg

DiscFact, P(t,T)	Domestic PV	Quanto PV
0.965605	41,426	24,496
0.932394	39,773	23,574
0.900325	38,185	22,686
0.869358	36,661	21,831
0.839457	35,197	21,009
0.810584	33,792	20,218
0.782705	32,443	19,457
0.755784	31,148	18,724
0.729789	29,905	18,019
0.704688	28,711	17,340
0.680451	27,565	16,687
0.657047	26,465	16,059
0.634448	25,408	15,454
0.612626	24,394	14,872
0.591555	23,420	14,312
0.571209	22,485	13,773
0.551563	21,588	13,254
0.532592	20,726	12,755
0.514274	19,899	12,275
0.496585	19,104	11,812
-	-	-
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ProtectionLegTotalPV

ProtectionLegiotali	· V
578,297	348,605
D	0