Fixed Income Project

1) Long on MARKIT CDX.NA.HY.41 12/28 vs SHORT on MARKIT CDX.NA.HY.37 12/26

Thesis - The first trade in the hedge fund portfolio involves a $25 million notional amount for both the long position in MARKIT CDX.NA.HY. 41 12/28 and the short position in MARKIT CDX.NA.HY. 37 12/26. The rationale is to acquire more exposure to high-yield debt. The index comprises 100 high yield North American corporate bonds with credit ratings ranging from B and BB. Given recent economic conditions and future outlook, high yield credit conditions could deteriorate modestly in the near future. This trade positions for wider credit spreads, with the spread between these two indices currently 1.5 standard deviations too tight, suggesting potential for spread widening. By being long the newer on-the-run CDX contract, there's potential to benefit more if spreads widen further over the next 3 months. This long/short strategy on index contracts allows exposure to widening spreads while minimizing premium costs of buying outright credit default swap protection.

2) Long on KIM CDS 12/28 and BXP CDS 12/28 and Short on MARKIT CDX.NA.IG.41 12/28

Thesis - The trade involves long positions of $10 million notional each for KIM CDS 12/28 and BXP CDS 12/28, and a short position of $20 million notional on MARKIT CDX.NA.IG. 41 12/28. Commercial real estate markets remain robust, with low vacancies, stable rents, and relatively fair property prices. However, economic growth is expected to moderate, potentially affecting commercial property demand. Rising interest rates further add to the challenge by raising financing costs. While REIT credit profiles appear stable at present, underlying risks are emerging, particularly from the shift towards e-commerce and evolving demand for office space due to hybrid work models. Implementing CDS protection on REITs is advisable for portfolio diversification.

3) Long on T 4 ⅜ 11/30/28 vs Short on T 4 ½ 11/15/33

Thesis - This "UST 5 YR vs. UST 10 YR" trade involves a long position of $50 million face value on T 4 3/8 11/30/28 and a short position of $25 million face value on T 4 ½ 11/15/33. The trade aims to profit from the expected narrowing of the spread between longer-term and shorter-term Treasury yields. The 2:1 ratio helps manage risk, and the yield pickup of the shorter maturity bond helps offset the negative carry of the trade. This structure is designed to benefit from an expected flattening of the Treasury yield curve and demonstrates prudent risk management.

4) LONG on FNCL 6.5 N Mtge vs SHORT on FNCL 6 N Mtge

Thesis - Both the long and short positions have a $30 million face value. Our analysis indicates that the fund should short FNCL 6.5% mortgage and long FNCL 6% Mortgage. However, the rationale based on modified duration cannot be confirmed as the PowerPoint doesn't provide this information.

5) <u>LONG on FEDERAL FARM CR BKS BOND 2.58000% 10/30/2034 3133EK4S2 vs SHORT on FEDERAL FARM CR BKS BOND 4.80000% 05/24/2034 3133ENXJ4.</u>

<u>Thesis</u> - This investment strategy involves long and short positions of $15 million face value each. The long position is on FEDERAL FARM CR BKS BOND 2.58000% 10/30/2034 (CUSIP: 3133EK4S2) and the short position is on FEDERAL FARM CR BKS BOND 4.80000% 05/24/2034 (CUSIP: 3133ENXJ4). The strategy is based on the longer maturity of the long position, which may result in higher convexity, potentially acting as a buffer against interest rate changes.

Overall, the hedge fund portfolio has a total shareholder capital of $50 million, providing context for the size of individual trades relative to the fund's total capital.

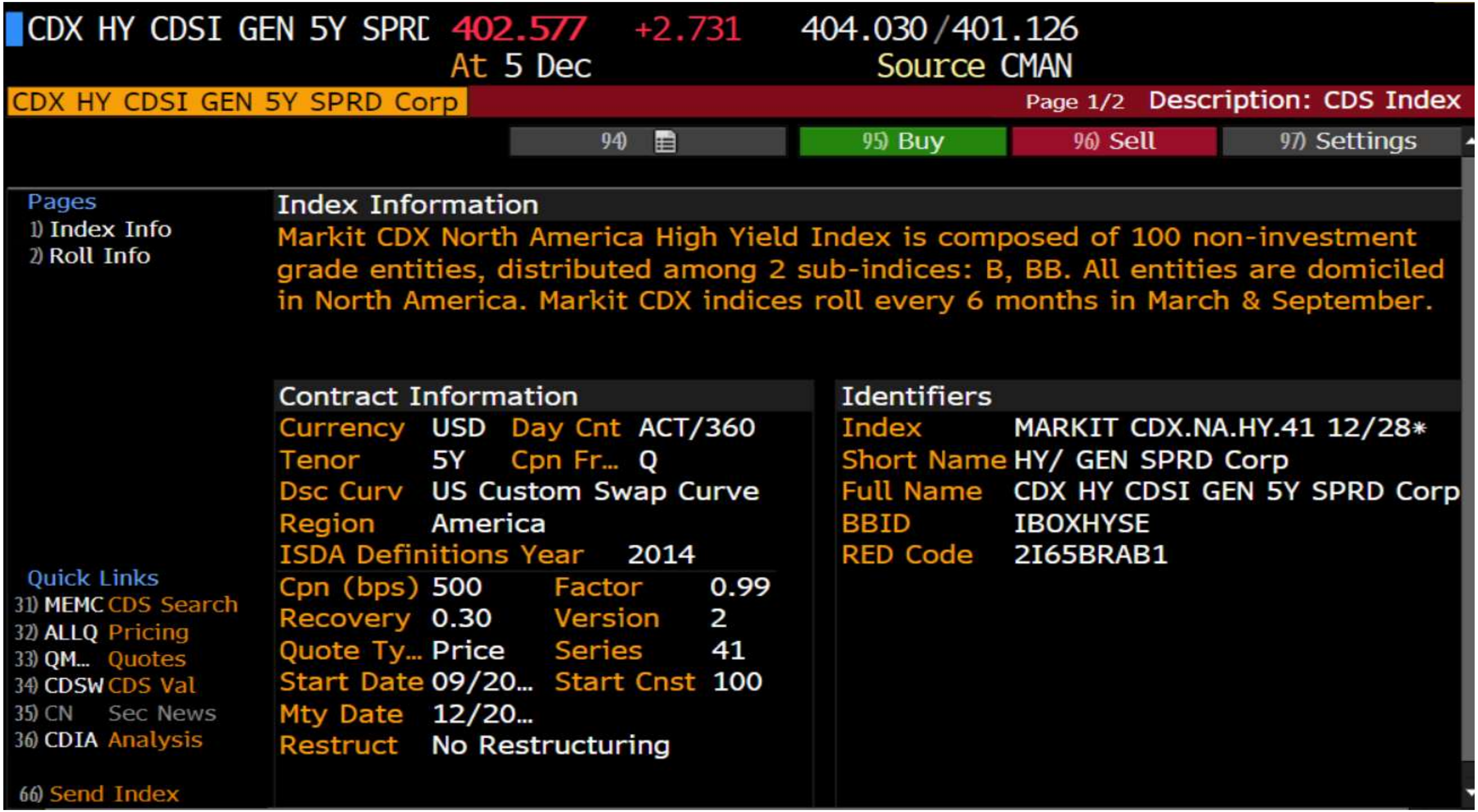
Capstone Hedge Fund Project
Fall 2023,

Hedge Fund Portfolio 11/29/2023 all USD$million Face (Bond) or Notional (CDS)

Amount	Long	Amount	Short
25	MARKIT CDX.NA.HY.41 12/28	25	MARKIT CDX.NA.HY.37 12/26
10	KIM CDS 12/28	20	MARKIT CDX.NA.IG.41 12/28
10	BXP CDS 12/28		
50	T 4 ⅜ 11/30/28	25	T 4 ½ 11/15/33
30	FNCL 6.5 N Mtge	30	FNCL 6 N Mtge
15	FEDERAL FARM CR BKS BOND 2.58000% 10/30/2034 3133EK4S2	15	FEDERAL FARM CR BKS BOND 4.80000% 05/24/2034 3133ENXJ4

50	Total Shareholder Capital

MARKIT CDX.NA.HY.41 12/28



MARKIT CDX.NA.HY.37 12/26

10) Calculator | 20) Constituents | 40) Intrinsic (Historical)

Valuation Date 06-Dec-2023

Index Name		Quoted	Price		Intrinsic	Basis	Duration
MARKIT CDX.NA.HY.41*	5Yr	CMAN	Mid	103.9016	102.3494	1.5522	4.137
MARKIT CDX.NA.HY.37*	5Yr	CMAN	Mid	105.8597	105.0972	0.7625	2.828
Net (Roll)				-1.9581	-2.7478		

2) MARKIT CDX.NA.HY.37* Intrinsic Value Calculator

Flat... N | Market Side Mid | Override Co... | Override Reco...

	Reference Entity	Spread	Pts Upf %	Source	Coupon	RecRate	Weight
1.	American Airlines Group Inc	688.8390	4.589	CMAN	500	0.40000	1.000
2.	American Axle & Manufacturing Inc	333.9600	N.A.	CMAN	500	0.40000	1.000
3.	Amkor Technology Inc	80.0350	N.A.	CMAN	500	0.40000	1.000
4.	Antero Resources Corp	97.6150	N.A.	CMAN	500	0.40000	1.000
5.	Apache Corp	85.1650	N.A.	CMAN	100	0.40000	1.000
6.	Aramark Services Inc	98.5200	N.A.	CMAN	500	0.40000	1.000
7.	Ashland LLC	63.8000	N.A.	CMAN	500	0.40000	1.000
8.	Avient Corp	95.7000	N.A.	CMAN	500	0.40000	1.000
9.	Avis Budget Group Inc	218.2650	N.A.	CMAN	500	0.40000	1.000
10.	Avon Products Inc	39.5900	N.A.	CMAN	500	0.40000	1.000
11.	Ball Corp	73.1400	N.A.	CMAN	100	0.40000	1.000
12.	Bath & Body Works Inc	150.7940	1.406	CMAN	100	0.40000	1.000
13.	Bausch Health Cos Inc	2877.0750	43.012	CMAN	500	0.40000	1.000

Deal

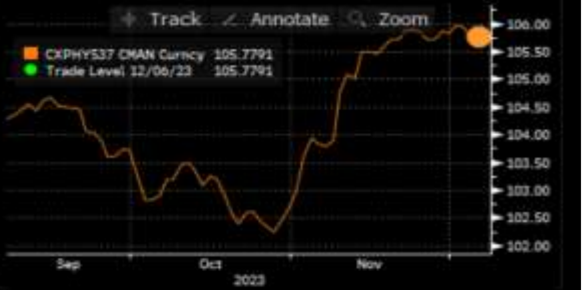
Buy Protection	Notional 10 MM USD	Factor	0.97
CDS Index	MARKIT CDX.NA.HY.37 12/26*		
Bberg Index ID	SPF002AU	RED Pair Code	2I65BRAA6
Trade Date	12/06/23		
Trade Price	105.7791	Coupon (bp)	500.000
1st Accr Start	09/20/21	Payment Freq	Quarterly
1st Coupon	12/20/21	Day Count	ACT/360
Pen. Coupon	09/21/26	Bus Day Adj	Following
Maturity Date	12/20/26	Pay AI	True
Crv Rec	True	Calendar	5U
Rec Rate	0.3000	Date Gen	B

Market

Curve Date	12/06/23
Swap Curve	531 Mid
View USD Custom Swap Curve.	
CDS Curve	C CMAN Bid
<SPF002AU Curve> | CDSD »	
Recovery Rate	0.30

Term	Pts Upf	Spread	Prob
12/20/26	-5.77910000	286.2370	0.1179

View Historical Data 3 Month



Calculator — ISDA Standard Upfront Model (I)*

Cash Settled On	12/11/23	Valuation Date	12/06/23
Cash Calculated On	12/11/23		
Price	105.77910000	Spread DV01	2,739.59
Principal	-560,573	IR DV01	85.05
Accrued (78 Days)	-105,083	Rec Risk (1%)	481.23
Cash Amount	-665,656	Def Exposure	7,350,573

Deal

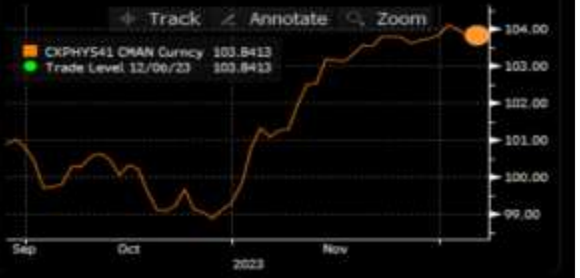
Buy Protection	Notional 10 MM USD	Factor	0.99
CDS Index	MARKIT CDX.NA.HY.41 12/28*		
Bberg Index ID	SPOKOP4N	RED Pair Code	2I65BRAB1
Trade Date	12/06/23		
Trade Price	103.8413	Coupon (bp)	500.000
1st Accr Start	09/20/23	Payment Freq	Quarterly
1st Coupon	12/20/23	Day Count	ACT/360
Pen. Coupon	09/20/28	Bus Day Adj	Following
Maturity Date	12/20/28	Pay AI	True
Crv Rec	True	Calendar	5U
Rec Rate	0.3000	Date Gen	B

Market

Curve Date	12/06/23
Swap Curve	531 Mid
View USD Custom Swap Curve.	
CDS Curve	C CMAN Bid
<SPOKOP4N Curve> | CDSD »	
Recovery Rate	0.30

Term	Pts Upf	Spread	Prob
12/20/28	-3.84130000	404.1187	0.2546

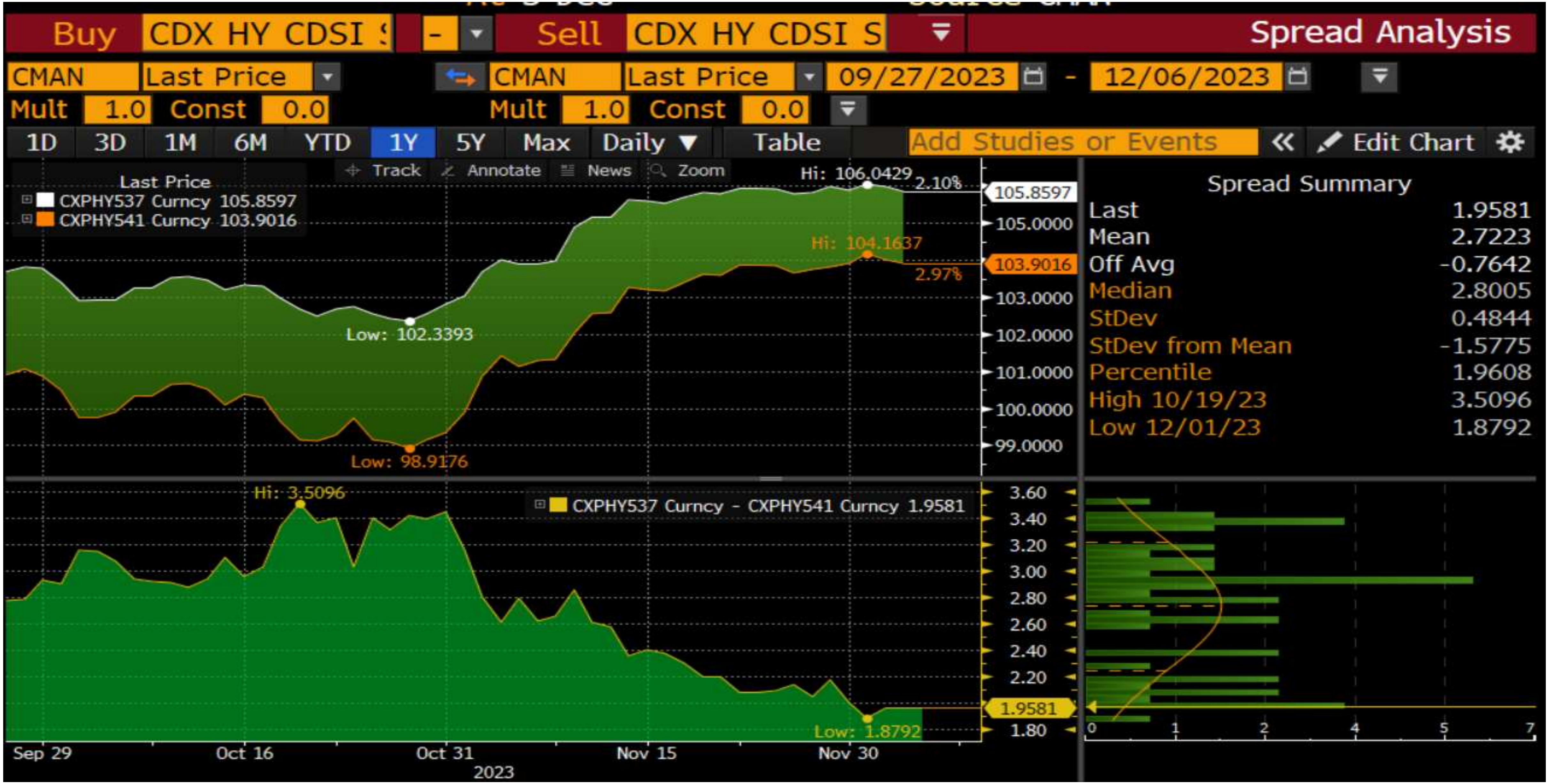
View Historical Data 3 Month



Calculator — ISDA Standard Upfront Model (I)*

Cash Settled On	12/11/23	Valuation Date	12/06/23
Cash Calculated On	12/11/23		
Price	103.84130000	Spread DV01	4,092.11
Principal	-380,289	IR DV01	89.14
Accrued (78 Days)	-107,250	Rec Risk (1%)	734.08
Cash Amount	-487,539	Def Exposure	7,310,289

1.5 StDev too tight



MARKIT CDX.NA.HY.41 12/28

Filters: CDX HY S41 | All Regions | All Ratings | All Sectors | 90) M

91) CDS Monitor | 92) Cross Asset View

Movers | <Add Security> | Historical Range

	N	Name (5Y CDS)	Spread	Change	#SD	Low	Avg / Now	High	Avg
101)		ADT Security Corp/The	172.68	+0.14	--	161.9		223.8	195.5
102)		American Airlines Grou...	792.42*	-0.14	--	777.6		1041.6	901.1
103)		American Axle & Manuf...	506.67	+2.29	+0.2	470.7		571.2	524.0
104)		Amkor Technology Inc	138.22	+0.15	--	138.1		207.1	172.5
105)		Antero Resources Corp	143.95	+0.15	--	121.8		203.1	163.8
106)		Anywhere Real Estate ...	1094.70*	-0.30	--	926.9		1533.9	1194.7
107)		Aramark Services Inc	158.01	+3.31	+0.9	142.4		212.5	172.5
108)		Ashland LLC	110.51	+0.16	--	109.6		170.8	139.4
109)		Avient Corp	157.12	+0.15	--	148.7		263.3	204.4
110)		Avis Budget Group Inc	387.76	+0.05	--	332.8		475.9	402.5
111)		Ball Corp	124.62	+0.00	--	120.0		187.2	148.6
112)		Bath & Body Works Inc	287.65*	+0.21	--	287.3		388.5	338.4
113)		Bausch Health Cos Inc	61923.67*	+847.13	+0.1	2898.8		67766.0	9207.0
114)		Beazer Homes USA Inc	346.67	+0.47	+0.1	302.1		426.8	367.9
115)		Bombardier Inc	403.44	+0.05	--	376.8		549.7	444.7
116)		Boyd Gaming Corp (Su...	145.69	+0.15	--	141.3		221.9	174.2
117)		CCO Holdings LLC	263.62	+0.10	--	247.8		318.0	[illegible]

*Indicates spread derived from points upfront

MARKIT CDX.NA.HY.37 12/26

MARKIT CDX.NA.HY.37 12/26* | 1) Export to Excel | CDS Index Member List

Index	MARKIT CDX.NA.HY.37 12/26*	BB Number	CXPHY537
RED Code	2I65BRAA6	Deal Spread (bp)	500
1st Accrual Start Date	09/20/21	Current Price	105.7791/105.9403
Maturity Date	12/20/26	Version	4

Sector: All | Pricing Source: CBGN | Derived Spreads

	Company Name	Wgt	ISIN	RED Pair	Corp Tkr	5 Yr CDS Tkr	Spread (bp)
11)	American Airlines Group Inc	1.000	US02376RAC60	025ADXAB8	AAL	CAMR1U5	N.A.
12)	American Axle & Manufacturing Inc	1.000	US02406PAY60	UU2679AE9	AXL	CT370292	491
13)	Amkor Technology Inc	1.000	US031652BK50	0D47B7AH8	AMKR	CT356410	N.A.
14)	Antero Resources Corp	1.000	US03674XAJ54	039DB1AA0	AR	CY459512	N.A.
15)	Apache Corp	1.000	US037411BJ37	03AB52AE9	APA	CAPA1U5	138
16)	Aramark Services Inc	1.000	US038522AR99	03BD7IAC1	ARMK	CT371596	143
17)	Ashland LLC	1.000	US04433LAA08	0E876IAC5	ASH	CASH1U5	N.A.
18)	Avient Corp	1.000	US73179PAK21	0F89E3AA6	AVNT	CPOL1U5	N.A.
19)	Avis Budget Group Inc	1.000	US053773BG13	058AEBAG4	CAR	CCD1U5	N.A.
20)	Avon Products Inc	1.000	US054303BA99	0F9733AD5	AVP	CAVP1U5	53
21)	Ball Corp	1.000	US058498AS54	05DCDHAC1	BALL	CX356919	N.A.
22)	Bath & Body Works Inc	1.000	US501797AN49	0H78B3AD2	BBWI	CLTD1U5	N.A.

MARKIT CDX.NA.IG.41 12/28

CDX IG CDSI GEN 5Y Corp

Page 1/2 **Description: CDS Index**

94) | 95) Buy | 96) Sell | 97) Settings

Pages
1) Index Info
2) Roll Info

Index Information

The Markit CDX North America Investment Grade Index is composed of 125 equally weighted credit default swaps on investment grade entities, distributed among 6 sub-indices: High Volatility,Consumer, Energy, Financial, Industrial, and Technology, Media & Tele-communications. Markit CDX indices roll every 6 months in March & September.

Contract Information

Currency	USD	Day Cnt	ACT/360
Tenor	5Y	Cpn Fr...	Q
Dsc Curv	US Custom Swap Curve		
Region	America		
ISDA Definitions Year	2014		
Cpn (bps)	100	Factor	1.0
Recovery	0.40	Version	1
Quote Ty...	Spread	Series	41
Start Date	09/20...	Start Cnst	125
Mty Date	12/20...		
Restruct	No Restructuring		

Identifiers

Index	MARKIT CDX.NA.IG.41 12/28
Short Name	IG/ GEN Corp
Full Name	CDX IG CDSI GEN 5Y Corp
BBID	IBOXUMAE
RED Code	2I65BYED3

Quick Links
31) MEMC CDS Search
32) ALLQ Pricing
33) QM... Quotes
34) CDSW CDS Val
35) CN Sec News
36) CDIA Analysis

MARKIT CDX.NA.IG.41 12/28

KIM CDS 12/28

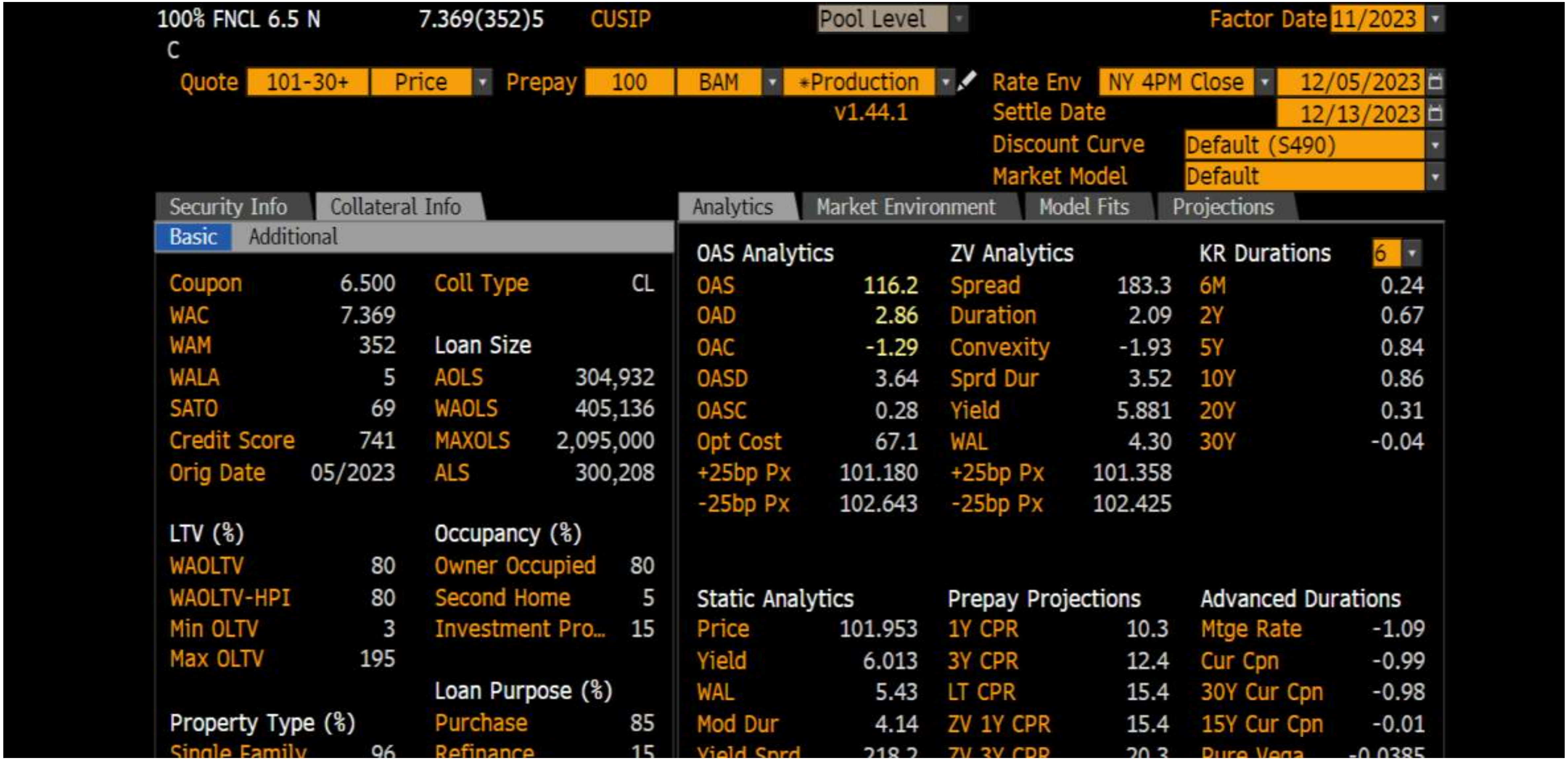

KIM CDS USD SR 5Y
94) Discover
96) Actions
97) Edit
Line Chart
12/07/2018 - 12/06/2023
CMAN
Last Px
Local CCY
Mov Avgs
Key Events
1D 3D 1M 6M YTD 1Y 5Y Max
Daily
Add Data
Edit Chart
Track
Annotate
News
Zoom
Last Price 59.770
High on 05/15/20 187.105
Average 81.383
Low on 01/11/22 45.085
200
180
160
140
120
100
80
59.770
40
2019
2020
2021
2022
2023

BXP CDS 12/28

BXP CDS USD SR 5Y
94) Discover
96) Actions
97) Edit
Line Chart
12/07/2018 - 12/06/2023
CMAN
Last Px
Local CCY
Mov Avgs
Key Events
1D 3D 1M 6M YTD 1Y 5Y Max
Daily
Add Data
Edit Chart
Track
Annotate
News
Zoom
Last Price 206.225
High on 11/03/23 207.630
Average 95.797
Low on 10/15/19 63.670
206.225
220
200
180
160
140
120
100
80
60
2019
2020
2021
2022
2023

UST 5 YR vs. UST 10 YR

FNCL 6.5 N Mtge



FNCL 6.5 N Mtge

FNCL 6.5 N Mtge | Actions | Export | Settings | Yield Tab

100% FNCL 6.5 N 7.369(352)5 CUSIP | Pool Level | As of 11/2023

11/2023	910P	9.0C	0.4B			Coupon	6.5%					
3Mo	1002	9.8	0.3	Orig Amt	80.4MMM	LTV/HLTV	80/80	Accrual	12/1-12/31	Age	5	0Yr 5Mo
6Mo	1175	11.3	0.4	Curr Amt	76.5MMM	MAXLS	2,095,000	Next Pay	1/25/24	WAM	352	29Yr 4Mo
12Mo	1424	10.5	0.2	Factor	0.95183122	WAOLS	405,136			WAC	7.369	
Life	--	--	--	# Pools	7,173							

1) Price-to-Yield

Settle 12/13/23	CF	CF	CF	CF	CF	CF	CF
Vary 0	2 CPR	5 CPR	8 CPR	11 CPR	14 CPR	17 CPR	20 CPR
Price 101-30+	6.3199	6.2571	6.1892	6.1169	6.0407	5.9610	5.8780
Avg Life	15.78	11.79	9.11	7.27	5.96	5.00	4.27
Mod Duration	8.86	7.20	5.98	5.06	4.36	3.81	3.37
Prin Win	1/24-3/53	1/24-3/53	1/24-3/53	1/24-3/53	1/24-3/53	1/24-3/53	1/24-3/53
I Spread	198	203	201	193	187	182	167

Nov23	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan	Dec
910P	948	1149	1062	1380	1647	1389	1862	2046	2096	2537	2140
9.0C	9.4	11.2	10.5	13.2	14.5	11.6	13.6	11.8	8.8	7.4	4.6

GOVT(I)	6M	1Y	2Y	3Y	5Y	7Y	10Y	30Y
8:29	5.38	5.06	4.58	4.34	4.14	4.19	4.17	4.30

Disc 30/360 | 10Y 102-21 | 20Y 103-21

FNCL 6 N Mtge

FNCL 6 N Mtge | Settings | Option-Adjusted Spread Analysis

Quote 100-24 Price | Prepay 100 BAM *Production v1.44.1 | Rate Env NY 4PM Close 12/05/2023

Settle Date 12/13/2023

Discount Curve Default (S490)

Market Model Default

Security Info | Collateral Info — Basic | Additional

Coupon	6.000	Coll Type	CL
WAC	6.893		
WAM	351	**Loan Size**	
WALA	6	AOLS	303,931
SATO	36	WAOLS	398,970
Credit Score	748	MAXOLS	2,095,000
Orig Date	04/2023	ALS	298,429
LTV (%)		**Occupancy (%)**	
WAOLTV	80	Owner Occupied	89
WAOLTV-HPI	80	Second Home	3
Min OLTV	4	Investment Pro...	8
Max OLTV	107		
		Loan Purpose (%)	
Property Type (%)		Purchase	87
Single Family	97	Refinance	13
2-4 Family	3	Loss Mitigation	--

Analytics | Market Environment | Model Fits | Projections

OAS Analytics		ZV Analytics		KR Durations	6
OAS	101.5	Spread	177.4	6M	0.20
OAD	3.29	Duration	2.74	2Y	0.67
OAC	-1.42	Convexity	-2.86	5Y	0.94
OASD	3.97	Sprd Dur	4.01	10Y	1.01
OASC	0.32	Yield	5.777	20Y	0.48
Opt Cost	75.9	WAL	4.94	30Y	-0.02
+25bp Px	99.876	+25bp Px	99.969		
-25bp Px	101.535	-25bp Px	101.351		

Static Analytics		Prepay Projections		Advanced Durations	
Price	100.750	1Y CPR	7.1	Mtge Rate	-1.04
Yield	5.838	3Y CPR	9.2	Cur Cpn	-0.94
WAL	6.53	LT CPR	12.3	30Y Cur Cpn	-0.93
Mod Dur	4.85	ZV 1Y CPR	9.8	15Y Cur Cpn	-0.01
Yield Sprd	203.8	ZV 3Y CPR	15.5	Pure Vega	-0.0434
Cashflow Sprd	193.7	ZV LT CPR	16.9	Prepay	0.0238

FNCL 6 N Mtge

FNCL 6 N Mtge | Actions | Export | Settings | Yield Table

100% FNCL 6.0 N 6.893(351)6 CUSIP Pool Level As of 11/2023

11/2023	582P	7.0C	0.3B			Coupon	6.0%						
3Mo	660	7.6	0.3	Orig Amt	144.8MMM	LTV/HLTV	80/80	Accrual	12/1-12/31	Age	6	0Yr	6Mo
6Mo	793	8.6	0.3	Curr Amt	138.2MMM	MAXLS	2,095,000	Next Pay	1/25/24	WAM	351	29Yr	3Mo
12Mo	972	8.3	0.2	Factor	0.95425564	WAOLS	398,970			WAC	6.893		
Life	--	--	--	# Pools	11,691								

1) Price-to-Yield

Settle	12/13/23	CF	CF	CF	CF	CF	CF	CF
Vary	0	2 CPR	5 CPR	8 CPR	11 CPR	14 CPR	17 CPR	20 CPR
Price	100-24	5.9484	5.9181	5.8852	5.8501	5.8131	5.7743	5.7339
Avg Life		15.54	11.64	9.02	7.21	5.92	4.97	4.25
Mod Duration		9.04	7.31	6.05	5.11	4.39	3.82	3.37
Prin Win		1/24-2/53	1/24-2/53	1/24-2/53	1/24-2/53	1/24-2/53	1/24-2/53	1/24-2/53
I Spread		162	171	172	167	165	164	153

Nov23	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan	Dec
582P	630	773	747	987	1113	1008	1265	1345	1350	1446	1555
7.0C	7.1	8.6	8.0	10.1	10.6	8.9	10.1	9.0	7.1	6.2	6.5

GOVT(I)	6M	1Y	2Y	3Y	5Y	7Y	10Y	30Y
8:33	5.38	5.06	4.58	4.33	4.13	4.18	4.16	4.29

Disc 30/360 10Y 102-24 20Y 103-25

FFCB 2.58 10/30/34 $↓78.747 -.085 78.294/79.200 5.216/5.090
At 7:00 --x-- Source BVAL

FFCB 2.58 10/30/34 Corp | Actions ▾ | Settings ▾ | Page 1/13 Security Description: Bond

Data not provided by Bloomberg | 94) Notes | 95) Buy | 96) Sell

25) Bond Description | 26) Issuer Description

Pages
11) Bond Info
12) Addtl Info
13) Reg/Tax
14) Covenants
15) Guarantors
16) Bond Ratings
17) Identifiers
18) Exchanges
19) Inv Parties
20) Fees, Restrict
21) Schedules
22) Coupons
23) Impact

Quick Links
32) ALLQ Pricing
33) QRD Qt Recap
34) TDH Trade Hist
35) CACS Corp Action
36) CF Filings
37) CN Sec News
38) HDS Holders
60) Send Bond

Issuer Information

Name	FEDERAL FARM CREDIT BANK
Industry	Government Sponsored (BCLASS)

Security Information

Mkt Iss	US DOMESTIC		
Ctry/Reg	US	Currency	USD
Rank	Unsecured	Series	
Coupon	2.580000	Type	Fixed
Cpn Freq	S/A		
Day Cnt	30/360 NON-E...	Iss Price	100.0000
Maturity	10/30/2034		
	CALL 10/30/24@100.00		
Iss Sprd			

Calc Type	(1)STREET CONVENTION
Pricing Date	10/23/2019
Interest Accrual Date	10/30/2019
1st Settle Date	10/30/2019
1st Coupon Date	04/30/2020

Identifiers

FIGI	BBG00QNRGGM0
CUSIP	3133EK4S2
ISIN	US3133EK4S23

Bond Ratings

Moody's	Aaa
S&P	AA+
Fitch	AA+
Composite	AA+

Issuance & Trading

Amt Issued/Outstanding
USD 80,000.00 (M) /
USD 80,000.00 (M)
Min Piece/Increment
1,000.00/ 1,000.00

Par Amount	1,000.00
Book Runner	NOM-sole
Reporting	TRACE

Security created by firm NOMURA SECURITIES INTERNATIONAL INC


FFCB 2.58 10/30/34 $178.747 -.085 78.294/79.200 5.216/5.090
At 7:00 --x-- Source BVAL
FFCB 2.58 10/30/34 Corp
Settings
Yield and Spread Analysis
78.294/79.200 5.216/5.090 BVAL @ 07:00
Notes
95) Buy
96) Sell
1) Yield & Spread
2) Graphs
3) Pricing
4) Description
5) Custom
6) Calls
7) Yields
FFCB 2.58 10/30/34 (3133EK4S2)
Risk
Spread 98.53 bp vs 10y T 4 ½ 11/15/33
Price 78.747 102-21¾ 08:40:51
Yield 5.152923 Wst 4.167653 S/A
Wkout 10/30/2034 @ 100.00 Consensus Yld 6 6
Settle 12/07/23 12/07/23
Workout OAS
M.Dur Dur 9.091 9.084
Risk 7.183 7.177
Convexity 0.959 0.953
DV 01 on 1MM 718 718
Benchmark Risk 8.199 8.180
Risk Hedge 876 M 877 M
Proceeds Hedge 767
Spreads
Yield Calculations
Invoice
11) G-Sprd 95.7
12) I-Sprd 139.0
13) Basis -78.8
14) Z-Sprd 133.7
15) ASW 116.8
16) OAS 96.2
Street Convention 5.152923
Equiv 1 /Yr 5.219305
Mmkt (Act/360)
True Yield 5.151645
Current Yield 3.276
Face 1,000 M
Principal 787,470.00
Accrued (37 Days) 2,651.67
Total (USD) 790,121.67
After Tax (Inc 40.800 % CG 23.800 %) 3.177892
Issue Price = 100.000. Non OID Bond with Mkt Di...

OPTION-ADJUSTED SPREAD ANAL

FED FARM CREDIT FFCB 2.58 10/34 78.294/79.200 (5.216/5.

Calculate (P,O,V) O

Price P) 79.2

OAS (bp) O) +89.91

Volatility V) 10.00

Cusip / ID# 3133EK4S2 Option Px Value: -0.00

Settle 12/ 7/2023 Bench settle 12/ 7/2023 Vega: 0.00

Spread 92.3bp vs 10Y T 4 ½ 11/15/33 Govt @ 102-22 (4.167)

{NUM}<GO> for:

3) Call Schedule

10/30/24 100.00

	OAS Method	Option Free	To Call on 10/30/2024	To Mty
Yld		5.090	30.830	5.090
Sprd		89.7	2579.1	89.7
M Dur	9.09		0.77	9.10
Risk	7.22		0.61	7.23
Cnvx	0.95		0.01	0.96

Model L L=Lognormal

Exercise Premium 0.00

FFCB 4.8 05/24/34 $↑97.116 +2.481 97.6 bp vs T 4.500 11/15/2033

As of 05 Dec Vol 500.0M Source TRMT

FFCB 4.8 05/24/34 Corp | Actions ▾ | Settings ▾ | Page 1/13 Security Description: Bond

Data not provided by Bloomberg 94) Notes 95) Buy 96) Sell

25) Bond Description | 26) Issuer Description

Pages
- 11) Bond Info
- 12) Addtl Info
- 13) Reg/Tax
- 14) Covenants
- 15) Guarantors
- 16) Bond Ratings
- 17) Identifiers
- 18) Exchanges
- 19) Inv Parties
- 20) Fees, Restrict
- 21) Schedules
- 22) Coupons
- 23) Impact

Quick Links
- 32) ALLQ Pricing
- 33) QRD Qt Recap
- 34) TDH Trade Hist
- 35) CACS Corp Action
- 36) CF Filings
- 37) CN Sec News
- 38) HDS Holders
- 60) Send Bond

Issuer Information

Name	FEDERAL FARM CREDIT BANK		
Industry	Government Sponsored (BCLASS)		

Security Information

Mkt Iss	US DOMESTIC		
Ctry/Reg	US	Currency	USD
Rank	Unsecured	Series	
Coupon	4.800000	Type	Fixed
Cpn Freq	S/A		
Day Cnt	30/360	Iss Price	100.0000
Maturity	05/24/2034		
CALL 12/13/23@100.00			
Iss Sprd			
Calc Type	(1)STREET CONVENTION		
Pricing Date			05/18/2022
Interest Accrual Date			05/24/2022
1st Settle Date			05/24/2022
1st Coupon Date			11/24/2022

Identifiers

FIGI	BBG017KZ59B6
CUSIP	3133ENXJ4
ISIN	US3133ENXJ45

Bond Ratings

Moody's	Aaa
S&P	AA+
Fitch	AA+
Composite	AA+

Issuance & Trading

Amt Issued/Outstanding

USD 50,000.00 (M) /

USD 50,000.00 (M)

Min Piece/Increment

1,000.00/ 1,000.00

Par Amount	1,000.00
Book Runner	NOM,WFS
Reporting	TRACE

Security created by firm WELLS FARGO SECURITIES LLC

FFCB 4.8 05/24/34 $↑97.116 +2.481 97.6 bp vs T 4.500 11/15/2033
As of 05 Dec Vol 500.0M Source TRMT

FFCB 4.8 05/24/34 Corp | Settings ▾ | Yield and Spread Analysis

97.116/97.116 5.160/5.160 TRMT @ 12/ 5 Notes 95) Buy 96) Sell

1) Yield & Spread | 2) Graphs | 3) Pricing | 4) Description | 5) Custom | 6) Calls | 7) Yields

FFCB 4.8 05/24/34 (3133ENXJ4)

Spread	97.59 bp vs	10y T 4 ½ 11/15/33	
Price	97.342325	102-25	08:48:13
Yield	5.131158 Wst	4.155273	S/A
Wkout	05/24/2034 @ 100.00	Contribut... Yld	6 6
Settle	12/07/23	12/07/23	
Spread Quoted			

Risk

	Workout	OAS
M.Dur / Dur	8.091	4.688
Risk	7.890	4.572
Convexity	0.796	-3.847
DV 01 on 1MM	789	457
Benchmark Risk	8.209	8.190
Risk Hedge	961 M	558 M
Proceeds Hedge	946	

Spreads

11)	G-Sprd	96.0
12)	I-Sprd	138.2
13)	Basis	-77.3
14)	Z-Sprd	132.2
15)	ASW	130.2
16)	OAS	68.0

Yield Calculations

Street Convention	5.131158
Equiv 1 /Yr	5.196980
Mmkt (Act/360)	
True Yield	5.130715
Current Yield	4.931

Invoice

Face	1,000 M
Principal	973,423.25
Accrued (13 Days)	1,733.33
Total (USD)	975,156.58

After Tax (Inc 40.800 % CG 23.800 %) 3.051380

Issue Price = 100.000. Non OID Bond with Mkt Di...

OPTION-ADJUSTED SPREAD ANAL

FED FARM CREDIT FFCB4.8 05/24/34 / (/

Calculate (P,O,V) O

Price P) 97.116

OAS (bp) O) +72.75

Volatility V) 10.00

Cusip / ID# 3133ENXJ4 Option Px Value: -2.09

Settle 12/ 7/2023 Bench settle 12/ 7/2023 Vega: -0.21

Spread 102.3bp vs 5Y T 4 3/8 11/30/28 Govt@101-2 (4.137)

{NUM}<GO> for:

3) Call Schedule

12/13/23 100.00

	OAS Method	Option Free	To Call on 12/13/2023	To Mty
Yld		4.897	182.795	5.160
Sprd		72.8	17744.9	99.1
M Dur	4.89		0.01	8.09
Risk	4.75		0.01	7.87
Cnvx	-3.69		0.00	0.80

Model L L=Lognormal

Exercise Premium 0.00

Suggested Functions | **DDIS** Analyze an issuer's debt profile | **YASN** Price & analyze a structu