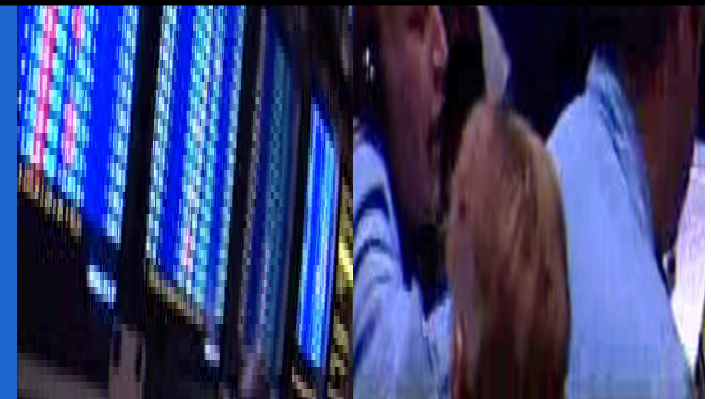




Anatomy of a Cross-Asset Trade: Credit vs. Equity

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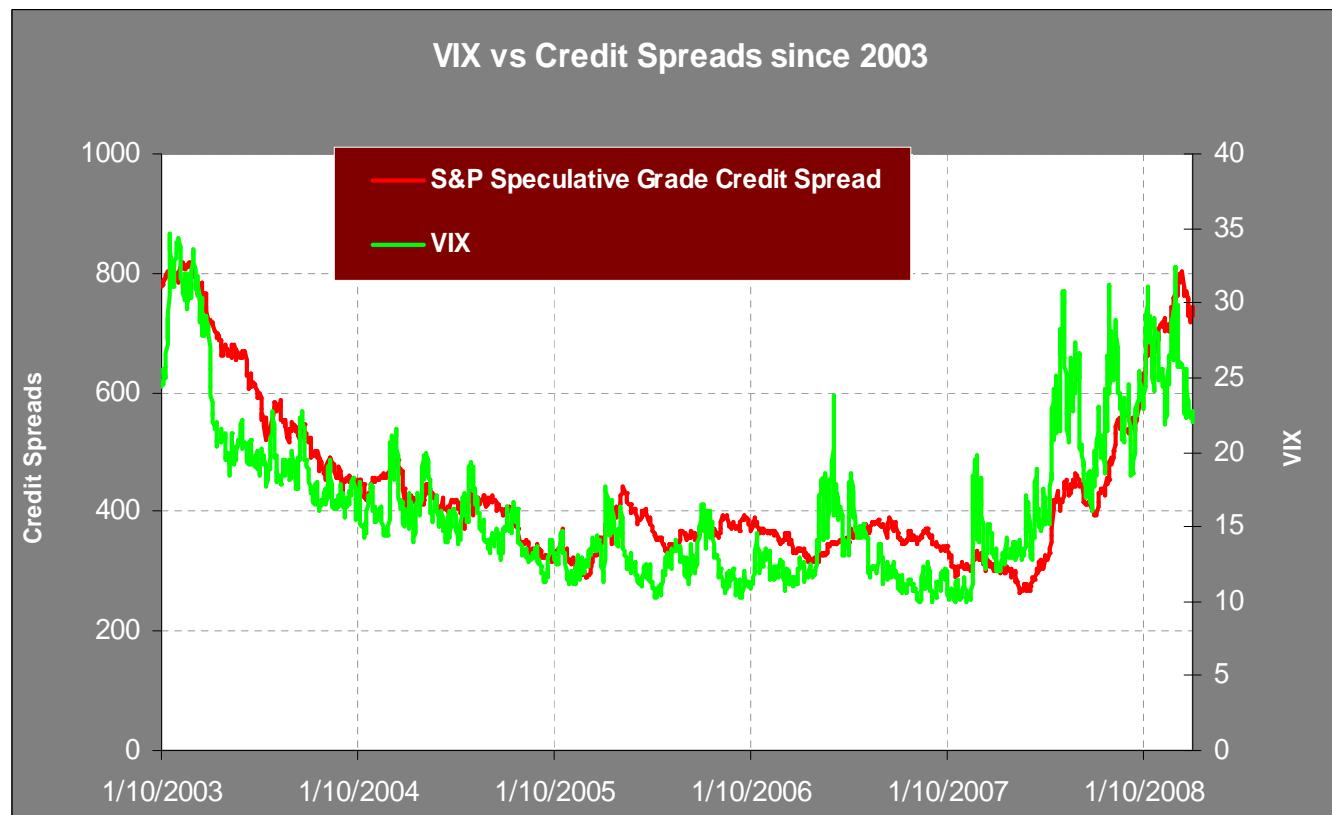
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Agenda

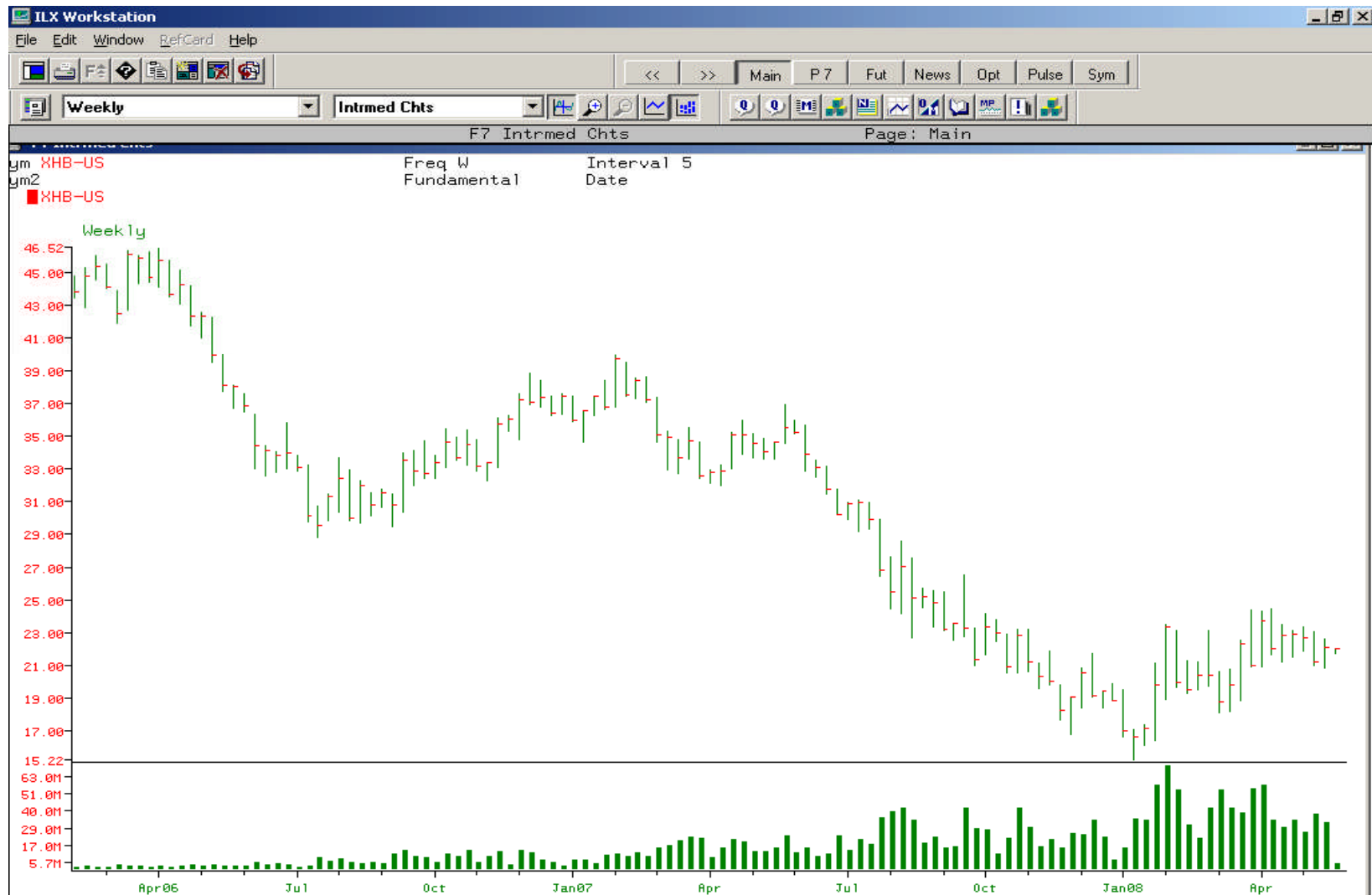
- Credit / equity correlation
- The Homebuilding Sector
 - Are the credit and equity markets telling the same story?
 - Credit Event Binary Options
- Constructing a trade
 - Profit & Loss
 - Risks to the trade
- Margin considerations
- Conclusions / Q & A

Credit / Equity Correlation



Sources: CBOE and Standard & Poor's

Homebuilding Sector: XHB



BBR: Homebuilder Sector CEBO expiring in Sep. 2008

Home Builder Sector Multiple Payout Basket CEBOs (BBR)						
	Company Name	Equity Ticker	Reference Obligation	Notional Value	Assumed Recovery Rate	Cash Settlement Amount
1	KB Home	KBH	KBH 7.75 02/01/10	\$12,500.00	0.40	\$7,500.00
2	K Hovnanian Entpers Inc	HOV	HOV 6.5 01/15/14	\$12,500.00	0.40	\$7,500.00
3	Beazer Homes USA Inc	BZH	BZH 6.5 11/15/13	\$12,500.00	0.40	\$7,500.00
4	Std Pac Corp	SPF	SPF 7 08/15/15	\$12,500.00	0.40	\$7,500.00
5	Centex Corp	CTX	CTX 5.25 06/15/15	\$12,500.00	0.40	\$7,500.00
6	Lennar Corp	LEN	LEN 5.95 03/01/13	\$12,500.00	0.40	\$7,500.00
7	Pulte Homes Inc	PHM	PHM 5.25 01/15/14	\$12,500.00	0.40	\$7,500.00
8	Toll Bros Inc	TOL	TOL 6.875 11/15/12	\$12,500.00	0.40	\$7,500.00
				\$100,000.00		\$60,000.00

XHB components

Stock	Symbol	Weight
Standard Pac Corp New	SPF	5.10%
Meritage Homes Corp	MTH	4.90%
Nvr Inc	NVR	4.80%
Furniture Brands Intl Inc	FBN	4.60%
Beazer Homes Usa Inc	BZH	4.50%
Champion Enterprises Inc	CHB	4.50%
Lowes Cos Inc	LOW	4.50%
Leggett & Platt Inc	LEG	4.50%
Lennar Corp	LEN	4.40%
D R Horton Inc	DHI	4.40%
Hovnanian Enterprises Inc	HOV	4.40%
Toll Brothers Inc	TOL	4.30%
M D C Hldgs Inc	MDC	4.30%
Sherwin Williams Co	SHW	4.30%
Pulte Homes Inc	PHM	4.30%
Ryland Group Inc	RYL	4.30%
Home Depot Inc	HD	4.20%
Avatar Hldgs Inc	AVTR	4.20%
Mohawk Inds Inc	MHK	4.20%
Kb Home	KBH	4.10%
Ethan Allen Interiors Inc	ETH	4.00%
Centex Corp	CTX	3.80%
Tempur Pedic Intl Inc	TPX	3.40%

Similarities: BBR CEBO & XHB deep OTM put

- Both are securities, traded in a securities account
- Both should increase in value as equity prices / credit quality decline
- It takes extreme events / movement for either to go 'in-the-money'
- Same expiration (September 2008)
- Same sector, subject to the same fundamental news
- Maximum gain and maximum loss is known for both

Differences: BBR CEBO & XHB deep OTM put

- XHB – 23 components; BBR – 8 components
- XHB – equity derivative; BBR – credit derivative
- XHB put – 100 multiplier; BBR – 1,000 multiplier
- Different margin requirements

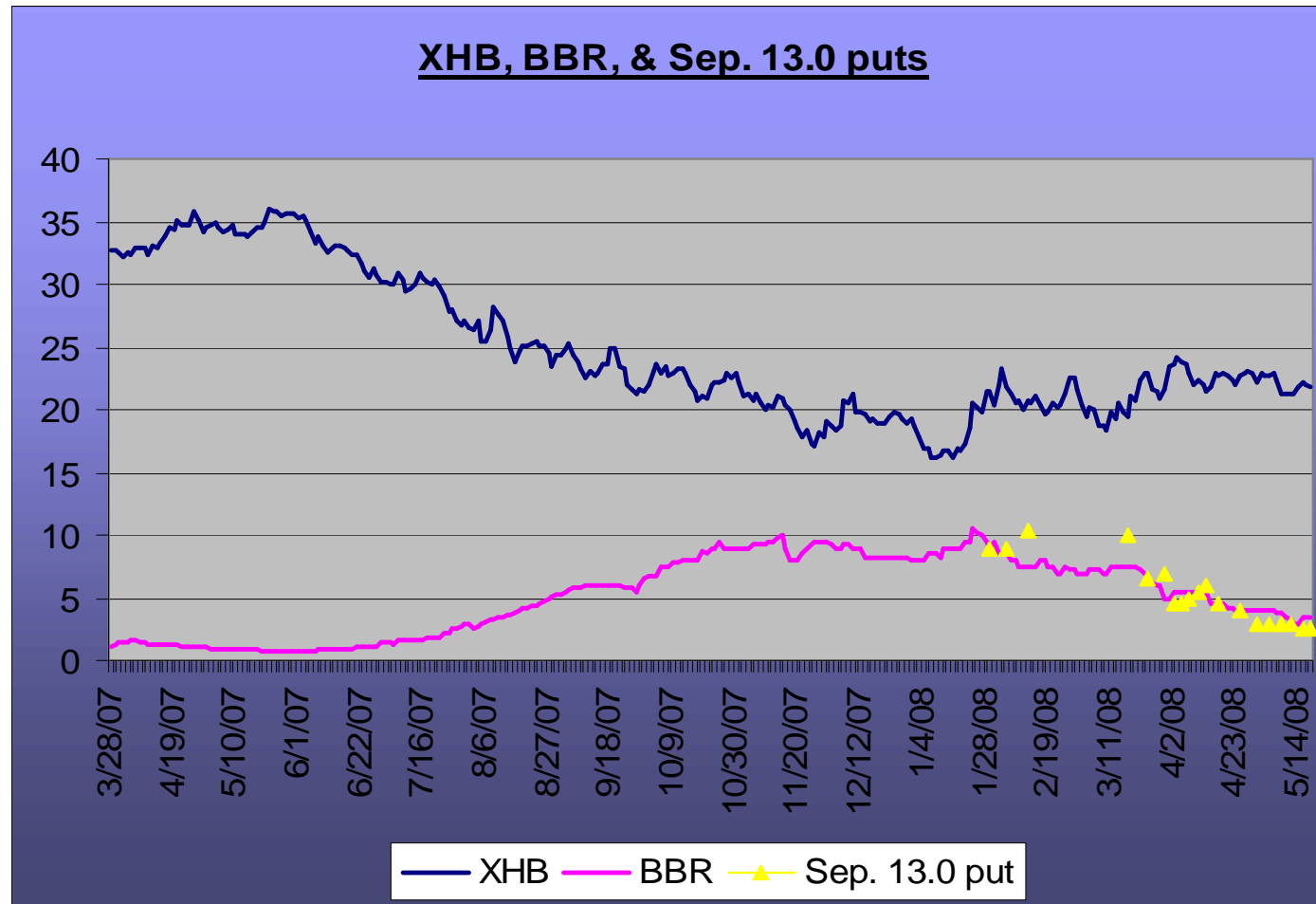
Which XHB deep OTM September put should we trade?

- At a trade price of \$3.00, CEBO implies a 5% chance of 8 credit events
 - $\$3,000/\$60,000 = 0.05$
- Which XHB put implies a 5% chance of disaster within the sector?
 - 5 delta put on Sep XHB = 13.0 strike
 - XHB Sep. 13.0 put value on May 19 = \$0.25 with XHB trading \$22.00
 - To get ~\$60,000 worth of exposure = 46 contracts
 - \$1,150
- \$1,850 more premium in CEBOs

What is the market telling us?

- Demand for credit protection on homebuilders is greater than demand for equity protection
 - CEBOs appear rich relative to equity options, considering this example's view that homebuilders will remain solvent for the next several months
 - Hypothetical Trade on 5/19/08: Buy 46 XHB Sep. 13.0 puts for \$0.25 / Sell 1 Sep. BBR CEBO at \$3.00
 - Debit for the puts = \$1,150
 - Credit for short CEBO = \$3,000
 - Net credit = \$1,850

XHB, BBR, & Sep. 13.0 put



Zero Credit Events: P&L at expiration

# of credit events / XBH price	Premium Received on Short CEBO position	Payout due to credit event(s)	Net P/(L) on short CEBO	Premium Paid on long 46 XHB Sep. 13.0 puts	Net P/(L) on long 46 XHB Sep. 13.0 puts	Net P/(L) on XHB / CEBO spread
0 credit events / XHB > \$13.00	\$3,000	\$0	\$3,000	(\$1,150)	(\$1,150)	\$1,850

1 credit event: HOV defaults 6/15/08, Value at expiration

# of credit events / XHB price	Premium Received on Short CEBO position	Payout due to credit event(s)	Net P/(L) on short CEBO	Premium Paid on long 46 XHB Sep. 13.0 puts	Net P/(L) on long 46 XHB Sep. 13.0 puts	Net P/(L) on XHB / CEBO spread
1 credit events / XHB > \$13.00	\$3,000	(\$7,500)	(\$4,500)	(\$1,150)	(\$1,150)	(\$5,650)

8 credit events: value at expiration with XHB at \$4.00

# of credit events / XHB price	Premium Received on Short CEBO position	Payout due to credit event(s)	Net P/(L) on short CEBO	Premium Paid on long 46 XHB Sep. 13.0 puts	Net P/(L) on long 46 XHB Sep. 13.0 puts	Net P/(L) on XHB / CEBO spread
8 credit events / XHB = \$4.00	\$3,000	(\$60,000)	(\$57,000)	(\$1,150)	\$40,250	(\$16,750)

What about all of the possibilities in between?

- XHB should fall
- Implied volatility should increase
 - XHB Sep. 13.0 put increases
 - Time decay
- Credit spreads should widen, thereby increasing the price of the CEBO
 - But there will also be downward pressure on the CEBO due to less components and time decay

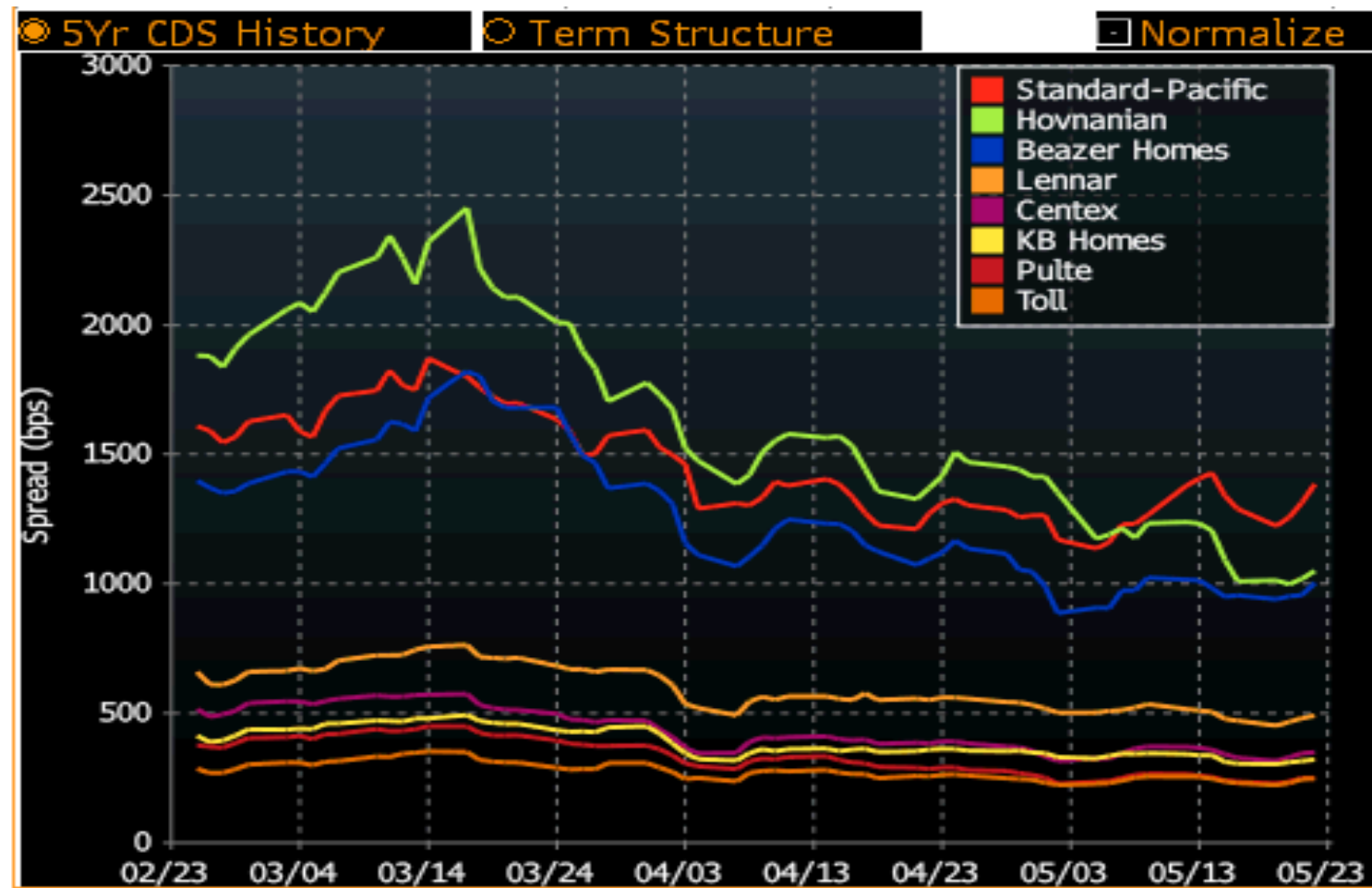
Coupon payment dates (no principal due)

ISSUER	CPN_DTE	AMT_DUE (\$MLNs)	CDS	Rating
SPF	15-Aug	\$11.812500	1376 bps	B
		\$11.812500		
HOV	15-Jun	\$4.781250	1149 bps	CCC+
HOV	15-Jul	\$36.393750		
		\$41.175000		
BZH	15-Jun	\$11.171875	987 bps	B
BZH	15-Jun	\$4.162500		
BZH	15-Jul	\$12.031250		
		\$27.365625		
LEN	1-Jun	\$16.111345	500 bps	BB+
LEN	15-Jun	\$15.562500		
		\$31.673845		
CTX	15-Jun	\$11.812500	356 bps	BB+
CTX	15-Jul	\$13.125000		
CTX	1-Aug	\$15.750000		
CTX	15-Aug	\$13.193750		
		\$53.881250		
KBH	15-Jun	\$24.937500	340 bps	BB
KBH	15-Jul	\$8.812500		
KBH	1-Aug	\$18.812500		
KBH	15-Aug	\$11.156250		
		\$63.718750		
PHM	15-Jun	\$11.812500	252 bps	BB+
PHM	15-Jul	\$13.383250		
PHM	1-Aug	\$19.687500		
PHM	15-Aug	\$24.475000		
		\$80.358250		
TOL	1-Jun	\$6.187500	248 bps	BBB-
TOL	1-Aug	\$8.250000		
		\$14.437500		

Key fundamental dates

<u>DATE</u>	<u>EVENT</u>
05/27/08	New Home Sales
06/09/08	Pending Home Sales
06/17/08	Housing Starts
06/24/08	S&P/Case Shiller Home Price Index
06/25/08	New Home Sales
06/26/08	LEN earnings
06/27/08	KBH earnings
07/08/08	Pending Home Sales
07/17/08	Housing Starts
07/24/08	CTX earnings
07/25/08	SPF earnings
07/25/08	BZH earnings
07/25/08	PHM earnings
07/25/08	New Home Sales
07/29/08	S&P/Case Shiller Home Price Index
08/07/08	Pending Home Sales
08/19/08	Housing Starts
08/22/08	TOL earnings
08/26/08	New Home Sales
08/26/08	S&P/Case Shiller Home Price Index
09/05/08	HOV earnings
09/09/08	Pending Home Sales
09/17/08	Housing Starts

Which BBR component is most likely to default, according to the market?



Margin considerations (Exchange minimums)

■ Customer

- Long XHB Sep. 13 puts
 - Premium paid in full (\$1,150)
- Short CEBO
 - Max. cash settlement amount + premium received (\$63,000)

■ Qualified Customer (\$5 million)

- Long XHB Sep. 13 puts
 - Premium paid in full (\$1,150)
- Short CEBO
 - 15% of the max. cash settlement amount + premium received (\$12,000)

■ Broker-Dealer

- SEC's Net Capital Rule provides offsets when short CEBO is combined with a long equity put position

CBOE's Credit Options Complex

- Single Name CEBOs
 - Ford Motor Co. (FDE)
 - General Motors Corp. (GCB)
 - Hovnanian Enterprises (CKA)
 - Standard Pacific Corp. (JSV)
- Basket CEBOs
 - Auto Sector (AYF)
 - Homebuilder Sector (BBR)
 - High-Yield Composite (HAU)
- Each CEBO currently has two expirations
 - September 2008
 - September 2012
- More CEBOs with more expirations will be listed

Conclusions

- Credit vs. equity trades may present profitable trading opportunities
- CBOE's Credit Event Binary Options allow all investors the opportunity to trade credit derivatives

Where to learn more about CBOE's Credit Derivatives

- www.cboe.com/credit
- Matt McFarland – Director, Credit Derivatives
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 - mcfarland@cboe.com